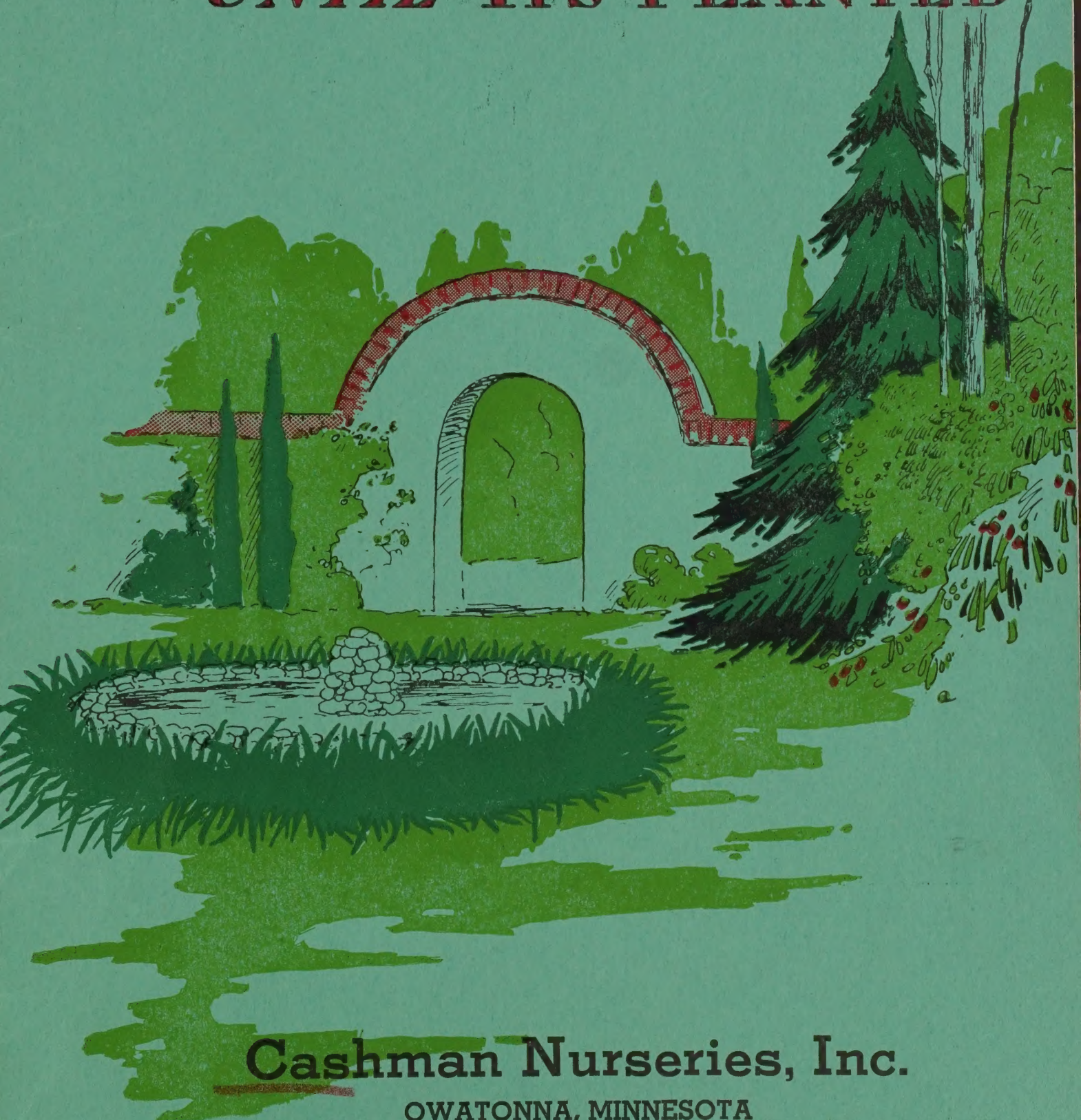


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



It's Not A Home *UNTIL* It's PLANTED



Cashman Nurseries, Inc.
OWATONNA, MINNESOTA

General Information

Where to Plant.—As a rule any well drained land suited to farm and garden crops will prove satisfactory for the general planting of trees and shrubs in the Northwest. The laying out of a grove or orchard, where a landscape gardener is not employed, should be done with care and it is always well to draw a complete diagram before planting is started. Many people have made the mistake of planting their outside groves or wind break too close to the buildings, making it impossible to get the best results from inside planting later on. If planting a wind break, be sure to go back far enough for orchard, garden and shrubbery to be planted inside without being crowded and to allow for a free and plentiful circulation of air on the inside. Fruit trees, being expected to grow and produce fruit at the same time, should be planted on land that is fairly rich and which has been well cultivated and drained. Where possible it is better to plant apple and plum orchards on a north or east slope. A southern slope is the least desirable owing to the fact that the sun brings the frost out of the ground earlier in the spring and freezing and thawing of the ground at the trunk is very liable to cause damage to the roots. However, where no other place is available this can be overcome by a heavy mulch as described later on.

How to Plant.—First be sure that the ground is well worked up and fertile. Unless a very few trees are to be set, it is much faster and also better to use a plow for planting. First mark out your rows the desired distance apart, and run the plow back and forth in the same furrow at least five or six times with a man riding on the beam, throwing the dirt out each way, and making the furrow as deep as possible. Trees can then be set in their place, packing sufficient fresh dirt firmly around the roots to sustain the tree in an upright position. Then with one horse, run the plow back and forth on each side of the row, throwing loose dirt back into the trench. After this is done, pack the dirt firmly around each tree. It is well to run these furrows one at a time and follow up with the planting, so that the dirt will not have a chance to be dried out by the sun and wind and will retain the natural moisture of the ground, which is very essential to trees. If necessary to plant in sod the ground should be loosened for a distance of from two to three feet from the tree each way according to the size. Dig the holes large enough to allow the roots to be laid in without bending and deep enough for the roots to be covered a few inches deeper than they were in the nursery row. If the trench where trees are heeled in is any distance from the place they are to be planted, it is well to uncover a few at a time and place them in a pall of mud. In that way they can be carried to the field and taken out one at a time without being exposed.

When to Plant.—In Minnesota and the Dakotas the proper time to plant trees or shrubs is in April or May, according to the season. Hardy perennials do well when planted in the fall but they also succeed well when planted in the spring. Tulips, Narcissi, Hyacinths and the Dutch bulbs can only be planted in the fall, generally in September or October.

Care of Nursery Stock.—It is safe to say that seventy-five per cent of the nursery stock that fails to grow, or does grow but is always stunted and weak, is due to improper handling after it is received by the customer. It cannot be impressed too strongly upon planters the necessity of keeping the roots from the sun or wind. When the stock is received, open the bundle in the shade out of the wind and if you are not ready to plant immediately, heel the roots in the ground, soaking them well as you do. If well heeled in they can be kept without damage for a reasonable time. However, the sooner trees are set in their permanent place after being opened the better.

Pack Dirt Firmly.—As the trees are placed in the hole with the roots carefully spread out, pull in the earth a little at a time and pack it firmly with the hands until there is enough to prevent bruising the roots when stamping it with the foot. Fill the hole up, packing the earth as firmly as possible as you go. Finish with a little loose dirt and allow the ground to slope toward the tree to collect moisture.

Pruning Is Essential.—Pruning is a very important matter and should be done with care and judgment. If too much wood is left above the ground the roots will not be able to supply it with moisture and the con-

sequences will be a serious set-back or possible failure. Use a sharp knife or pruning shears and cut away all bruised or broken roots. On fruit trees, the stems should now be put in condition for the formation of the top by removing all the limbs to the point where it is desired to have the top; then cut back each remaining limb, leaving from four to six buds of last season's growth. In the absence of any limbs suitable to form a top, cut the trees down to the requisite height, leaving the dormant buds to make the top. Pruning vigorously at time of setting is generally very distasteful to the planter, as it injures for a time the appearance of the tree to an unpracticed eye. It should, however, be unhesitatingly performed, all the branches to the extent of at least one-half the length of the previous year's growth being removed. Care should also be used to give the proper form to the tree. The head may be left high or low, as the taste of the planter may prefer, or as the nature of the tree in some cases may require. Large shade trees should be cut down to about two-thirds their height and all or nearly all of the branches removed, leaving the naked stem to form a new head. It is a good idea to wrap the lower half of the trees with burlap to protect them from sun scald until the branches are large enough to shade them. In the case of most bush fruits and ornamental shrubs the pruning should be even more severe, leaving but little above the ground. Evergreens are of a different nature and should not be pruned.

Should Be Mulched.—Mulching is also a very important matter and all young trees should be well mulched with hay or straw as soon as planted to retain the moisture in the ground around the trunk and also keep down weeds and grass. Never use fresh manure as a mulch as it is very liable to damage the tree.

Spraying Is Necessary.—Fruit trees and bushes, like other forms of life, cannot do their best while infected by disease or infested with insects. Spraying should be carefully and thoroughly done and at the proper time. On the opposite page we show a spray calendar that we have carefully worked out with the aid of entomologists and plant pathologists and which is deemed best suited to conditions in the central north-west.

To Eradicate Red Spider.—During the last few years Red Spider has attacked most varieties of Evergreens, and must be dealt with in order to save the trees. The Red Spider is a very small red bug that is hardly discernible with the naked eye; if it is taken in time, it will not injure the tree.

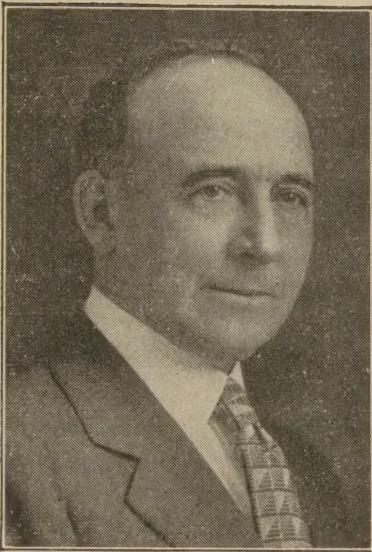
There are two methods to combat them, one is by the use of common glue to the extent of five pounds to fifty gallons of water, saturating the tree thoroughly with this solution. The Spider will become encased and will not do any more damage. A second application may be necessary but not often. In order to get the best results, it should be put on with a spray pump that has considerable pressure—200 lb. pressure is required if the best results are obtained, but if a person hasn't a spray pump, they can swish it on with a broom or window washer. The other is by the use of "Kolodust," a powder which can be blown on with a hand sprayer and kills the insects outright.

Protection Against Mice.—Protection by banking up the trunks of young trees about one foot, on the approach of winter is a good practice. It protects the graft and is sufficient barrier against mice, unless there is a deep fall of snow. This is not a very laborious matter, for about three spadefuls of soil is enough for each tree. When there is danger of mice working under the snow, trod it down quite firmly around the trees. To guard against mice and rabbits when not otherwise protected, wash the stems with thin white wash thickened with copperas and sulphur. If this is washed off by rains renew the wash as often as necessary.

Varieties That Are Hardy.—As the bulk of our business is done in Northern States of the Mississippi Valley, it is to our interest to propagate only such varieties of trees, shrubs and plants as are best suited to the soil and climatic conditions of these states. In this book we are listing only such varieties as long experience and rigid tests have proven of value and the planter may feel safe in selecting any of them with a very few exceptions, which will be noted in the descriptions.

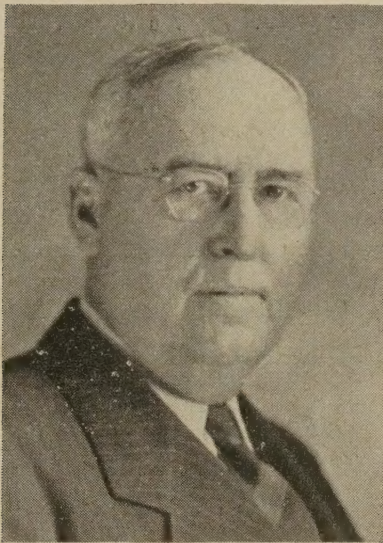
See Spray Calendar on inside Back Cover

FOREWORD



**The Late
THOS. E. CASHMAN
Founder**

nursery stock, no concern grades more closely—in fact, the stock we reject as unfit for our retail trade now, is much better in many cases than that produced and delivered during the first years of our existence—and no concern spends more, and few as much, in time and money in packing each bundle and protecting the roots so they will reach the customer in prime condition. The facts are that it has taken us many years to reach the position where we can give 100% service. All the money that we have made thus far, outside of a living, has gone into our plant—land, equipment, buildings, and well grown nursery stock. It has taken the better part of a lifetime of



**M. R. CASHMAN
Manager**

jury, the stock must be grown in this northern region. Growing practically all of our stock here, hiring the most scientific men that can be secured, grading to a point where every tree, shrub, and plant is either at, or near, the state of perfection, assures success to the customers we serve.

As the greatest cost to the customer is the cost of preparing land, planting, and caring for the stock after it is planted, you cannot afford to waste time, or money, on anything but good stock that is grown in this northern climate, and as that class of stock costs several times more to produce than poorly grown stock that is handled in a slipshod,

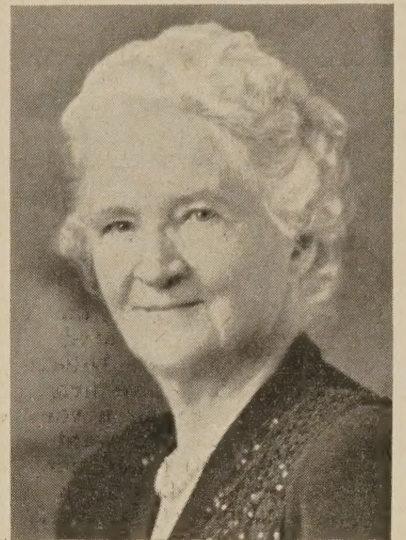
IN presenting this catalog to our customers we do so with a great deal of pride and satisfaction. This year will complete our forty-eighth year in the nursery business. We started forty-eight years ago without land, money, equipment, or experience, consequently the first few years were full of trials, discouragements, and disappointments.

Our early experience in the propagation of nursery stock (which is highly technical and hazardous in the beginning of a tree or plant's life) was like other beginners in the business—big losses, and poorly grown trees and plants was the result. Finally we mustered enough money so we were able to hire a man who had had some experience and from him we gained a little knowledge of the intricate features of propagating nursery stock. Better stock made friends, and more business, which gave us money to hire more expert propagators, construct modern buildings, and equipment, to purchase land and to propagate, plant, and grow scientifically large quantities of all kinds and varieties of trees, shrubs, and plants that can be grown successfully in the central northwest.

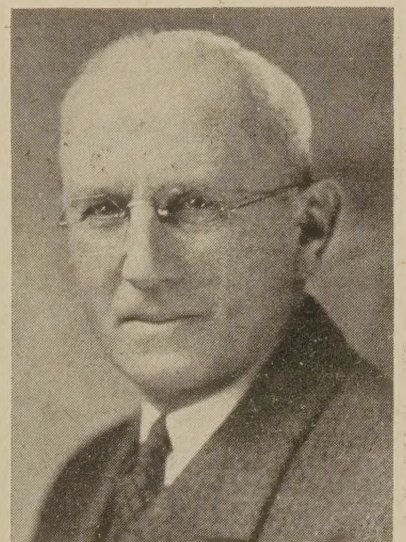
Our chief satisfaction is not wholly the fact that we have weathered the storm financially, but because we have reached the goal where we can honestly say that no concern grows better nursery stock more closely—in fact, the stock we reject as unfit for our retail trade now, is much better in many cases than that produced and delivered during the first years of our existence—and no concern spends more, and few as much, in time and money in packing each bundle and protecting the roots so they will reach the customer in prime condition. The facts are that it has taken us many years to reach the position where we can give 100% service. All the money that we have made thus far, outside of a living, has gone into our plant—land, equipment, buildings, and well grown nursery stock. It has taken the better part of a lifetime of persistent, painstaking, honest endeavor to reach the position that we have now attained.

From now on, there will be no question about us being able to furnish the best that skill and money can produce—nursery stock true to name, each tree and shrub labeled so there can be no substitution—and to serve, in every case, in a manner that will give a full measure of satisfaction to all who deal with us. For some time back, we have been able to say that no tree, shrub or plant has left this place that was not as near the state of perfection as is humanly possible to make it, and it will be our policy to steadfastly follow that course in the future.

Trees and plants that are perfect, or nearly so, do not happen by chance; they are made perfect by painstaking, intelligent methods and persistent work, all of which takes money to bring about, particularly in this northern region where we don't get more than half the growth in a season that is attained in the sunny south. It costs more than twice as much to grow nursery stock in the north as it does in the south, because, as stated, a tree or plant doesn't attain more than half the growth, but if we are to furnish stock that will live out its expectancy without climatic in-



**MRS. THOS. E. CASHMAN
President and Treasurer**

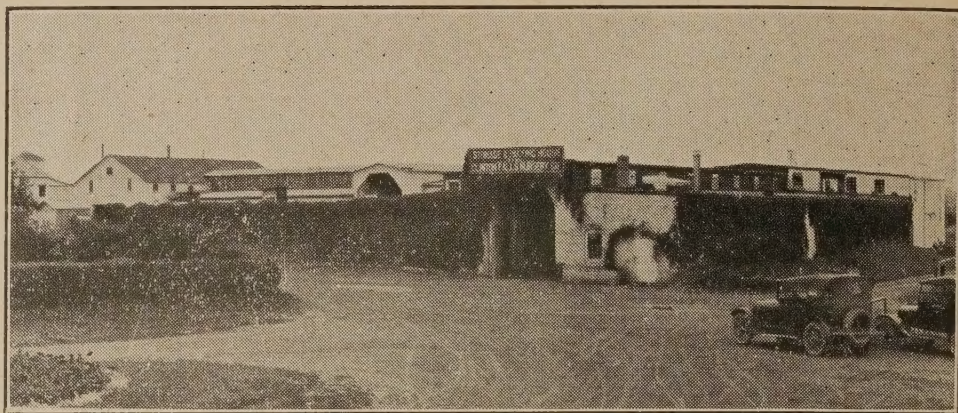


**J. A. CIESZINSKI
Secretary**

don't care manner, or seconds and thirds that are graded out of good stock, or stock that is grown in the south, we must ask a price that is in keeping with the quality of stock furnished, and that will enable us to keep up the high standard we are attempting to maintain. A poor tree or plant, or one not adapted to the climate, is dear at any price so don't be misled by those who would sell cheap for people usually get what they pay for in nursery stock the same as any other goods they purchase.

Believing that next to supplying A No. 1 stock, true to name, the greatest service we are performing is through the efficient and trustworthy salesmen who represent us. The customer always profits by being able to deal with a representative on the grounds, a man who is qualified to give advice as to where and in what manner the trees and plants should be planted, trimmed, pruned, sprayed, and protected so that full results may be obtained. The service rendered by the honest, intelligent, and trustworthy salesman can hardly be estimated. We have a crew of picked men that we believe in, and have confidence in, and we are firmly of the opinion that they are performing a very valuable service for our customers. We want our customers to ask our men to help them, not only in designing for landscape work, but in the preparation, not only for a new orchard, but handling of the old. Our men are charged with the responsibility of serving our customers and we hope our customers will make use of them to advantage.

We take this occasion to thank the thousands of customers who have patronized us in the past, and made it possible for us to build an institution which has been made possible by patronage and hard work. The plant belongs to the northwest because the northwest has furnished the wherewith to build it, and we want our customers to know that we feel it our duty to serve you with nursery stock at prices that will give value received, with one hundred per cent added in every case, and when we say one hundred per cent added, we mean just that, for we know that there isn't anything that can be sown or planted, on



Storage and Packing Shed, Showing Box Factory, Machine Shop, Blacksmith Shop and Barns in the Rear

good land, that is properly cared for that will produce half the results in monetary value, in health, in the beautifying of home surroundings, in comfort, or the enhancing of property values as the well grown tree, shrub, or plant adapted to the climate, set out and cared for intelligently. Yours for honest service.

CASHMAN NURSERIES, Inc.

M. R. Cashman, Manager.

STATE OF MINNESOTA

Department of Agriculture, Dairy and Food

CERTIFICATE OF NURSERY INSPECTION

Fee Paid - \$25.00

No. 417 St. Paul, Minn., Sept. 7, 1943

This is to certify that the general nursery stock and premises of Cashman Nurseries, Inc., Owatonna, Minnesota, have been inspected and found apparently free from dangerously injurious insects and plant diseases, including mosaic and similar virus diseases.

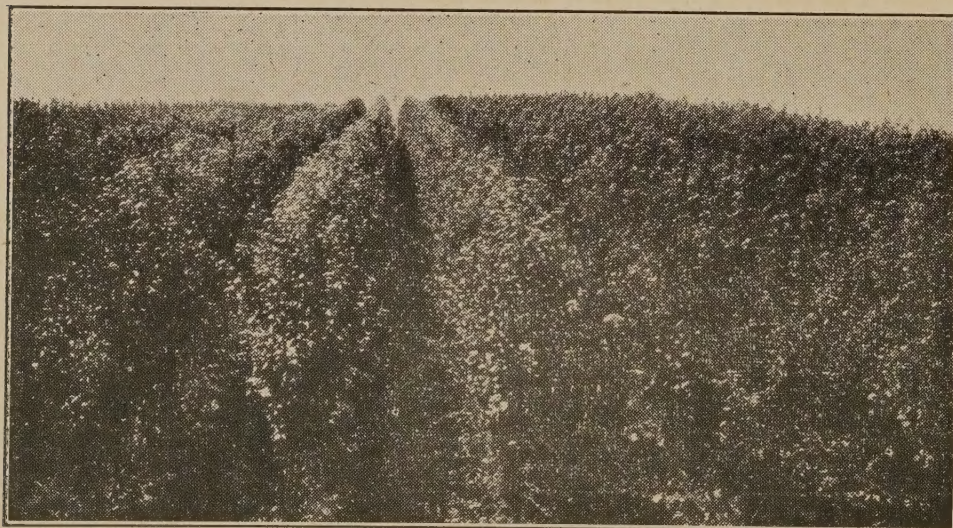
This certificate is void after September 15, 1944.

T. L. AAMODT, State Entomologist

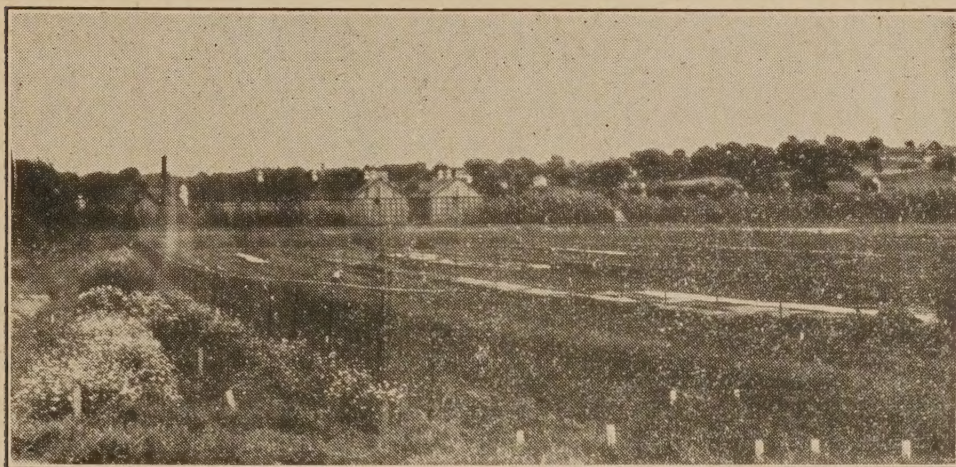
R. A. TROVATTEN, Commissioner

Ample Facilities

To handle a volume of business often reaching a half million dollars a year requires an abundance of storing, packing and shipping facilities. It has been found that trees and shrubs dug in the fall and properly stored and cared for come out in the spring in better shape for planting than when dug in the spring. This does not apply, however, to evergreens and strawberries, which must be dug in the spring. Our frost proof storage cellar and packing shed cover nearly an acre of ground with a storing capacity of one hundred carloads of nursery stock.



Part of a Forty Acre Block of Apple Trees



Irrigating System Used in Propagating Young Plants

Shipping Facilities

Our shipping facilities are all that could be wished for. We have our own private track connecting with the C. & N. W. Ry., over which cars are run into the packing shed for loading. We also have transfer facilities to the C., M. & St. P. and the Rock Island is only a short distance from our plant which enables us to route shipments for quick delivery in any direction.

Seed Department

Our Seed Department, which was established about twenty-five years ago has grown steadily every year and now "Cashman's Seeds of Quality" are known over a wide territory throughout Minnesota and the Dakotas. We aim at all times to handle only the best of varieties of tested seeds for this locality and you are safeguarding your own interests by ordering your seeds from us. In this department we also handle a very complete line of poultry supplies, insecticides and fungicides. If you do not receive our spring catalog and price list, drop us a card and we will gladly mail you one. It contains a list of all our new specialties in flower and garden seeds as well as much other information which will be of interest. Ready about January 1 of each year.

Service Departments

In order to build a plant of this size up to a high standard of efficiency we find it necessary to maintain several service departments including garage and machine shop, where our fifty or more cars and trucks are taken care of, blacksmith shop, carpenter and wagon shop, box factory, etc. We also operate our own printing office equipped with up to date presses, type and machinery, where all our catalogs, circulars, stationery, are turned out.

Labor Shortage

The past year has eliminated all younger men from our force. We are forced to operate with a small crew and in a big nursery it means planting less trees and more field crops. Demand for nursery stock has increased more than double. Many items are already

sold out and will not be available until after the war. However, we had a large stock and can supply nearly everything in shrubs, deciduous trees and Evergreens. We will advise either by mail or through our salesmen just what items are sold out and other items of which we can sell limited quantities. We urge all customers to take exceptional care of their trees this year. They may not be available for a few years to come.

Visitors Always Welcome

No pen picture can possibly give the reader a comprehensive idea of the large scale upon which this business is carried on. We are pleased at all times to have our friends and customers call and look over the many different departments and will try our best to make you welcome. In the summer you will have an opportunity of seeing millions and millions of trees, shrubs and plants in all stages of propagation.

Leave a Monument

Each home builder is entitled to some recognition for the good that he has accomplished in this life—a reminder to those who come after us that there once lived on that parcel of land a man or woman who had done something for posterity. Monuments are erected to mark our last resting place. Why not leave a monument that is more lasting and tells the story far better than granite or stone? Such can be accomplished through the planting of some of our long lived beautiful trees such as the American Elm, Colorado Blue Spruce, Black Hills Spruce and many others. If good northern trees are selected, and planted on heavy soil, the life of such trees is said to be two hundred years or more. Why not select that living monument this Spring, plant it yourself, care for it, and protect it during the years that it needs protection? If given a proper start, it will tell the story of the part that you had in its existence, and will be a joy and comfort during your days, and a splendid monument to you years after you are gone.



A Block of Perennials

Landscape Department

The aim of landscape design is to produce the maximum of beauty consistent with utility. To attain this result, it is usually best to secure the services of an experienced landscape architect, whose assistance will not only serve to avoid errors but will also save expense and time. It is not necessary to carry out the complete plan at one time, but before beginning, in all cases, there should be a plan, the ultimate development of which is to be the aim of all work done on the property. We maintain a landscape service department which will gladly aid you in every way and will draw plans if you will furnish us with a complete sketch of the property, drawn to scale, showing all measurements, location of buildings, walks, drives, trees and shrubbery already planted, together with photographs of the grounds and buildings. This service is entirely free where we furnish the stock for the planting and our customers are invited to avail themselves of it at any time. In case you wish to make a plan for yourself, the following suggestions may prove of value.

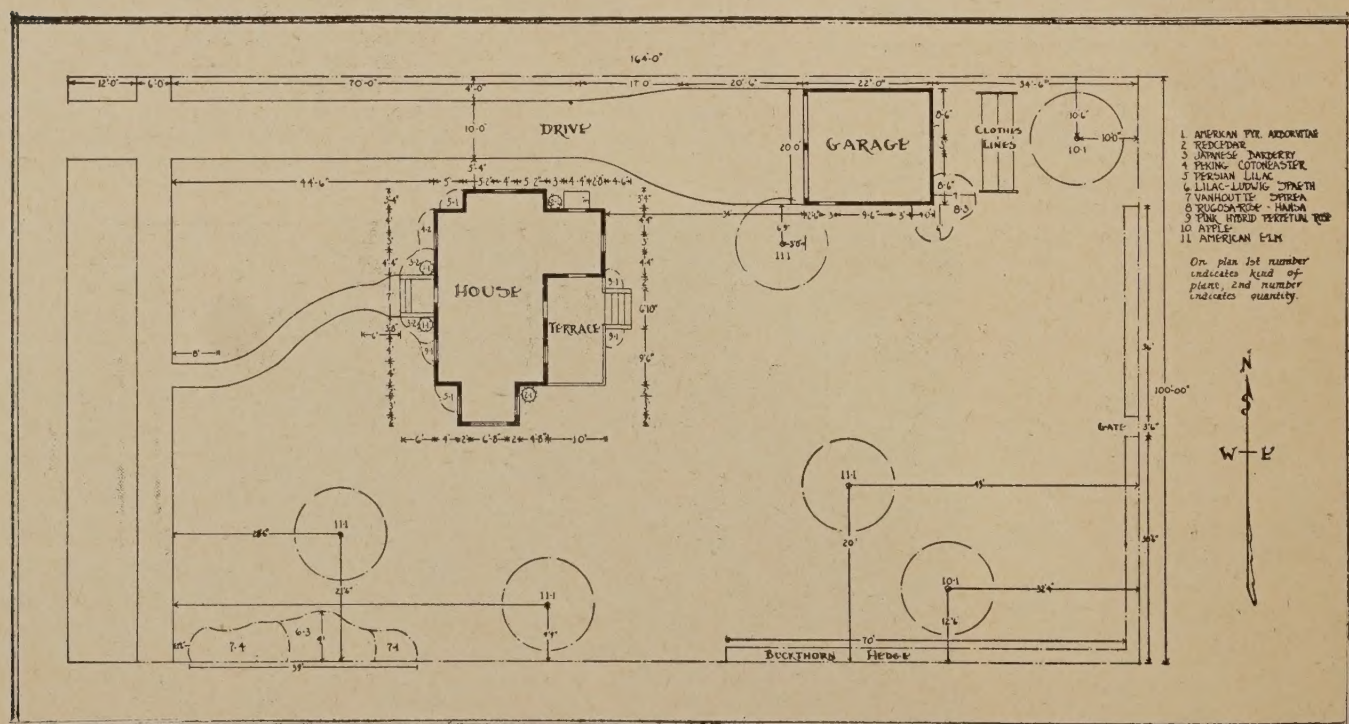
There are two types of gardens, the formal and the informal, neither of which need be antagonistic to the other. In fact, in large developments, both types are commonly used with harmonious results. A general rule to follow is that the grounds immediately surrounding a house are usually best developed formally, merging into informal arrangements farther away and then into the naturalistic if there is sufficient area. Of course this depends upon the type of building: for instance, Italian, French, Spanish and, to a less extent, English manor-houses require formal treatment, while the rambling type of building, such as the English cottage, is more happily treated in an informal manner.

The location of buildings is an important consideration, for each one must be located so as best to serve its purpose and all must be related

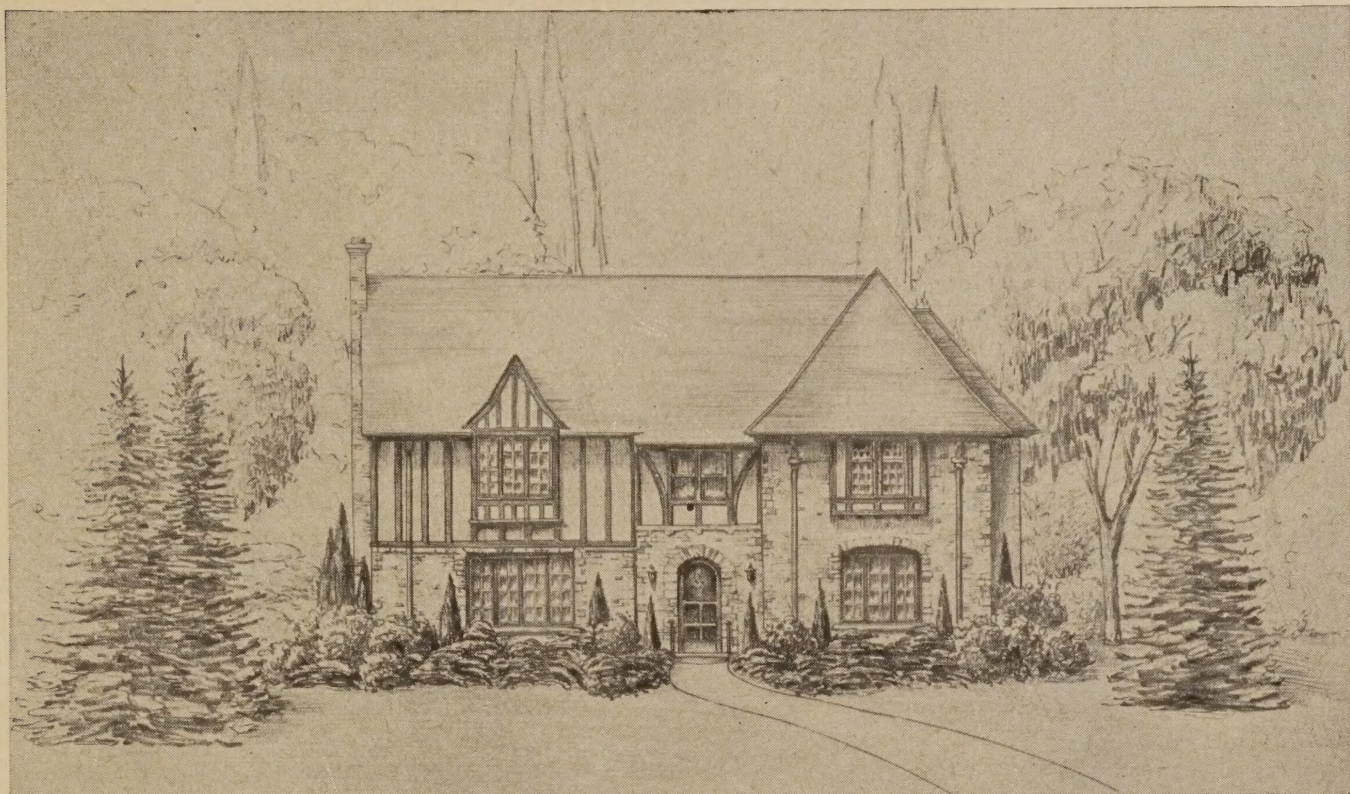
to each other so as to create a unit. Wherever possible, the house should be set far enough back from the street or road to provide a setting for it and should be placed on a slight elevation, partially to provide drainage and partially to present it most effectively, for which purpose it is often possible to use terraces to good advantage.

To afford privacy the house may be screened from the street, but this should be done in such a manner that while shutting out the view of the public, it does not create a feeling of imprisonment to those within. The foundation planting requires careful study so as to accent the best qualities of the building and hide or draw the attention from the bad features, if there are any, while, at the same time making the structure appear to be a part of the landscape. As a general rule, and particularly in the case of small houses, avoid large plants which will dwarf the house or cover windows. Unless the foundation is unpleasant to the sight, do not hide all of it but allow enough to show to tie the building to the ground. A judicious use of evergreens will create year-around beauty, but avoid the use of too many stiff and regular shapes or trees that will eventually grow too large. Vines are best used sparingly for they tend to give an impression of weakness to the house if they cover too much of the wall surface. Avoid trees near the building unless they serve a definite purpose, for they will shut off the air and sunlight.

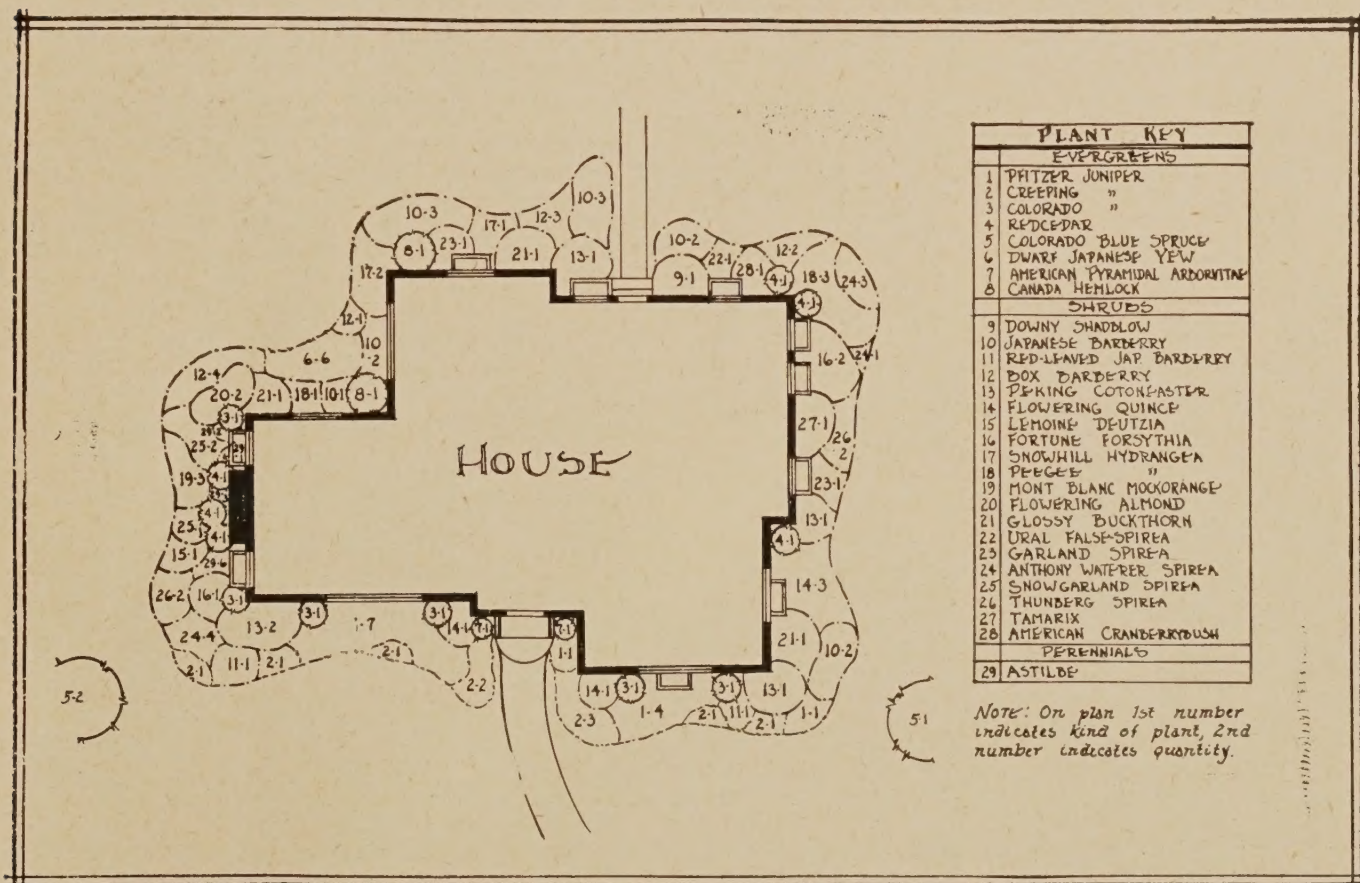
Paths and drives should, first of all, be utilitarian: they must provide a safe, easy and reasonably rapid means of communication. Next the pictures along the way should be considered, the grouping of trees, shrubs and possibly perennials. Attempt to create points of interest, particularly at the end of walks or drives or at turns. Whenever possible follow the contours of the ground to provide easy transportation. Always avoid meaningless curves or sharp turns and, unless



Example of Sketch Showing Measurements and Indications Necessary for Plot Development by Our Landscape Department.



Elevation Drawing for Plan Below.



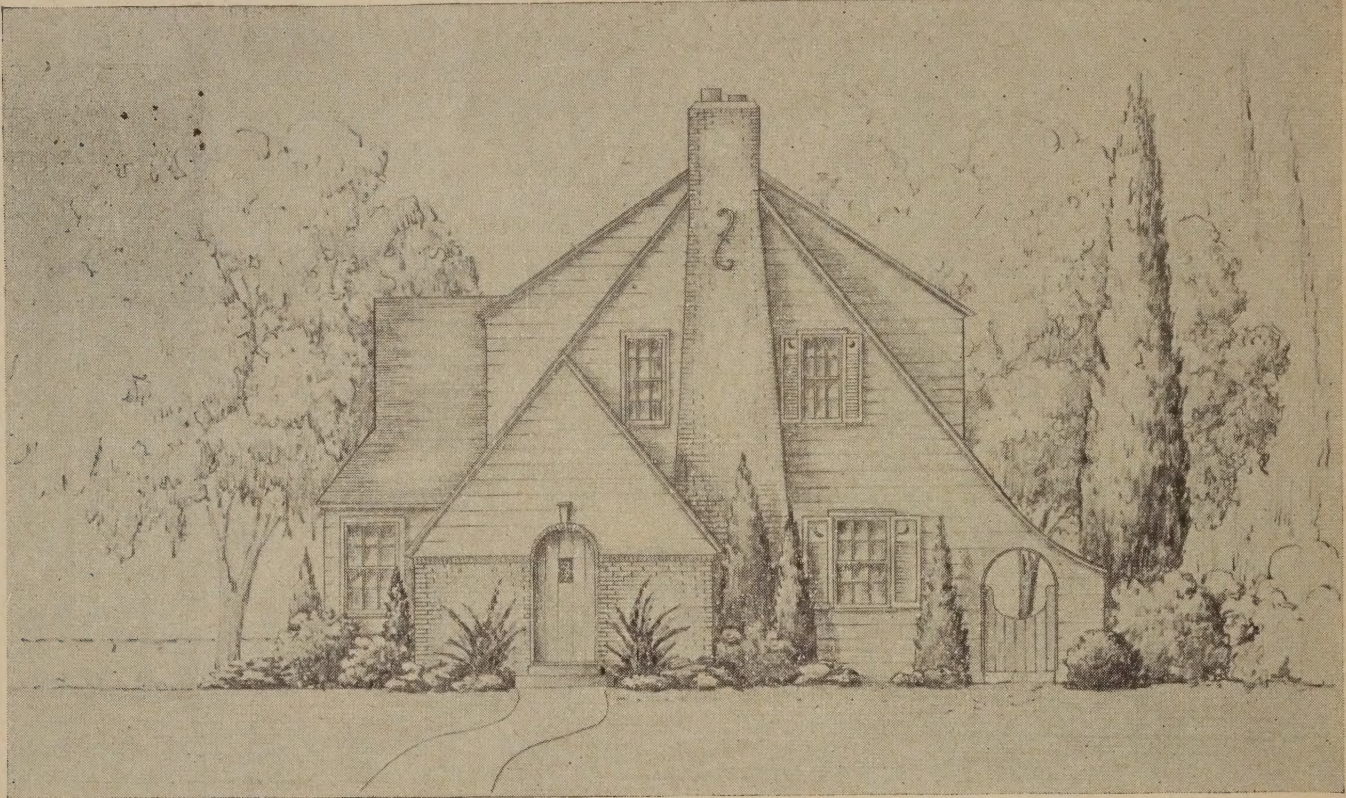
Ground Plan of a Heavy Foundation Planting.

the development is formal, straight lines. Attempt to create flowing lines. Avoid bisecting lawns.

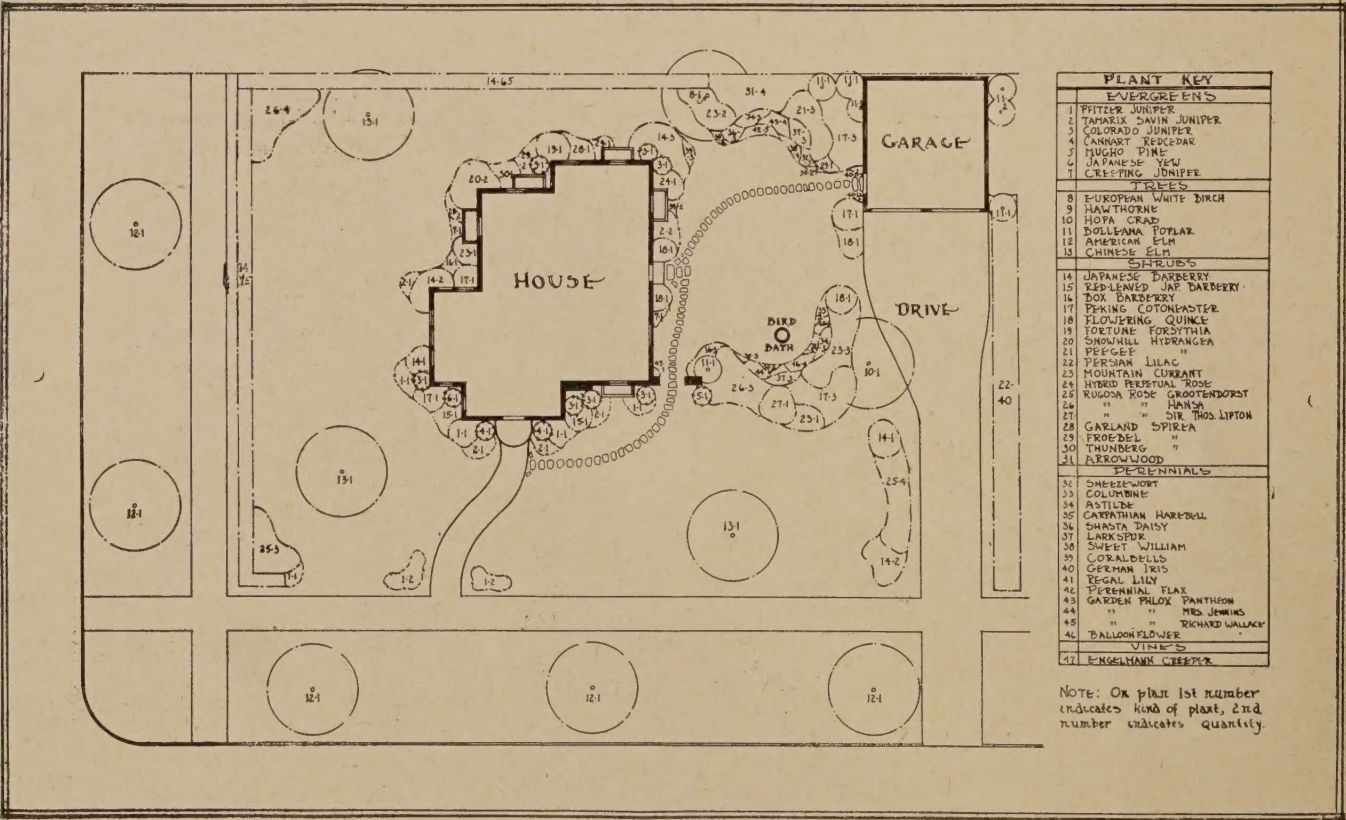
Turf should be neat and closely matted near a dwelling, but farther away may be allowed to grow more naturally, where plantings of naturalized bulbs may very effectively be used.

Perennials show to best advantage when placed

in gardens devoted exclusively to their display. Old-fashioned informal gardens are a source of never failing interest; formal gardens are lovely, so the choice will depend upon your preferences, the location and style of architecture with which they are associated. Here paths are means of locomotion as well as elsewhere, so make them serve their purpose, easy to walk on and wide



Elevation Drawing for Plan Below.



Ground Plan of a Typical Planting Arrangement for a Small Lot.

enough to afford comfort to the visitors as well as a foreground to the flowers, which means from three feet upward. The choice of material which may be used for walks is largely a matter of preference, the most suitable being gravel, stone, bricks or grass. Here again the end of a walk or turn must be a point of interest; the end of a walk must really be stopped with some feature, a resting place for the eye.

After the design of the garden has been planned, the selection of plants becomes the next problem. Colors and blooming season of plants must be studied to produce harmonious effects and if possible, continuous bloom or a succession of bloom to provide interest throughout the season. The texture of foliage adds value to a plant and, arranged for harmonizing or contrasting effects, carries the interest of the plant beyond the

blooming season. An equally important consideration is height. Naturally plants should be so placed that they graduate from the tall at the back of the border to the low at the front, and arranged in groups of from three upward, depending upon the size of the garden. Flowers should have a background of some kind so that they will show to the best advantage; this may be shrubs, a hedge, a wall or perhaps a fence. Water always adds interest, particularly if it is in motion, and in the form of a pool or fountain may be made the dominating center of interest which every garden needs.

Rock gardens are a very difficult type of development unless a location is available which is naturally and particularly suitable to this type of planting. An uneven or hilly piece of ground is most desirable and should be large enough so as not to appear cramped or unnatural. The study of nature will benefit greatly in the development of this garden. Notice that but one kind of rock is usually found in one area, of one color and all either stratified ledges or boulders, the latter being approximately two-thirds buried in the soil. Streams add interest and may form the inlet to a pool. A recent development is the formal rock garden, in which stratified rocks are used as paving and walls, with plants placed between the stones, and in which pools are formal and geometric in shape. Various levels in the form of terraces, wide or narrow, add interest to these gardens.

All types of gardens should be enclosed and all are increased in beauty if they have large shrubs and trees surrounding them to break the sky line. Care should be taken to place the trees so that they will not shade the entire garden, yet one or

two shady spots will not be of disadvantage for they admit of the use of many desirable shade-loving plants. Shrubs and trees should also be used to screen out undesirable objects or to frame an interesting view beyond the garden which may be made a feature worth emphasizing.

In shrub gardens or informal plantings, group varieties in large enough masses to produce unified effect. One plant each of many varieties produces an unpleasant spotty result. Specimens are to be used rarely and then mainly in formal plantings. Do not plant shrubs in straight lines but rather in easy curves, with individual plants in a staggered arrangement, creating deep bays for an effect of distance and enticement. Occasional spots of color may be used, but be sparing with colored foliage for it can very easily become overdone and distracting. Choose shrubs not only for flowering qualities, but also for foliage and fruit bearing qualities. Bright berries against the dark foliage of evergreens makes the winter scene more cheerful. In all types of planting, soil and temperature conditions are important factors to be considered.

Trees should be chosen for their suitability to the location. Large trees dwarf a small garden, while ornamental trees, such as birch or mountain ash, are unsuitable for street planting. An occasional accent plant, such as the Lombardy or Bolleana Poplar, relieves the monotony of a regular sky line.

When all factors from soil conditions to personal tastes have been considered thoroughly and complete plans have been worked out to result in a harmonious whole, then, and only then, start planting.

Notice:—Owing to the exigencies of war we have been forced to discontinue our Landscape Department for the duration. However, we will be glad at any time to render whatever assistance we can to prospective planters. Also our salesmen are men of long experience with planting problems and will be happy to have you consult with them whenever they are in your territory.



A Formal English Garden.

Orchard Planting

CAN BE MADE TO PAY

Years ago it was considered impossible to raise fruit with any degree of success in the Northwest and fruit raising did not meet with any great amount of favor from the early settlers. There were some of the pioneers, however, who had a vision of more and better things for the Northwest and forged ahead with untiring energy. Many were the failures of these early and ambitious fruit fanciers. They soon learned that varieties which did well in the eastern states, where the air is more moist and the growing season longer, were not suited to this section, where the air is dry, the winters long and severe and the summers hot. Today this has all changed. Extensive experiments by individuals and the state and federal governments have brought out fruits of nearly every kind, except tropical fruits, that are not only hardy and bear well but in many cases the fruit is of a better quality than that grown in other parts. A survey made by the State of Minnesota for the five year period from 1916 to 1920 brought out the fact that orchards that were properly managed and cared for returned a net return per acre far in excess of what could possibly be expected from the ordinary farm crops. In many of the better orchards under survey during this five year period the gross return averaged from three to five hundred dollars per acre. Fruit trees, like all farm crops, produce well or poorly according to the care they receive.

FOLLOW GENERAL INSTRUCTIONS

In setting out an orchard the best methods of planting, pruning, spraying and care are fully covered under "General Information" and if carefully read and followed, the efforts of even the beginner will be crowned with success. Do not lose sight of the fact that even though an orchard is properly planted it must have care to bring the best results.

AFTER PRUNING

Very much has been said about pruning by various authors. Judging from these and our own experience and observations, we would say: Looking at the health and vigor of a tree, the best time to prune is just before the sap begins to run, early in the spring.

Summer pruning is done to check rank growth and promote fruitfulness. This should be done very cautiously, if at all, as too much pruning will harm the tree. When we are in a hurry to have a tree bear, we pinch off the bud on the end of the limbs a little in the summer. Do not fear to prune the tree when it is young—that is, when it is not growing—and keep pruning as long as it lives.

TO CONTROL BLIGHT

It has been recently discovered that blight may be very effectively controlled by cutting out the blighting twigs as fast as they appear. The cut should be made well below the affected parts and the knife should be sterilized by dipping it in a five per cent solution of carbolic acid after cutting off each twig, so that the disease may not be carried from one limb to another. This work must be done as soon as the disease appears, and carried out persistently. It is also important that neighboring orchards be looked after or the disease will be continually carried back and the work prove unavailing. Birds, bees and other insects are the common carriers of the disease. Some varieties hardly ever blight and this should be remembered when selecting your trees.

TO PROTECT THE ROOTS

The roots of many trees, especially the apple are more tender than the tops. In winters of scanty snowfall many trees will come through with enough life in their trunks and branches to open the buds and put forth a few small leaves, but with their roots so seriously injured or killed outright as to ruin the trees. If we always had plenty of snow evenly on the surface, we would never have to think of the roots. But, in order to make them safe in winters with light snowfall, and in places where the snow blows off leaving bare ground, it is always best to cover the ground with a mulch of any convenient material extending from three to six feet out from the trunk of the tree. This does not have to be very thick as it is a matter of common observation that a small amount of litter will keep out a great deal of frost. Where there is litter of any kind about the trees, there will be danger of mice nesting and girdling them, which can be prevented by the use of galvanized screening or by hilling up around the trunk as shown on Page 8.

CULTIVATE THE ORCHARD

There always has been and probably always will be a conflict of ideas on this question. There are really good points in both methods. In sod the land will stop washing and wasting in heavy rains, and the

roots of the apple will be protected by the grass from severe freezing. But, the trees will be much healthier, make a better growth, and stand drought better in cultivated ground. Where the land is level so that it does not wash badly we advise cultivation, with a good mulch put about each tree in November. Where so rolling as to make cultivation impossible, keep the land in clover, and use all the hay as mulch about the trees. In both cases, protect the trees from mice with wire screening. Do not take a crop of hay from the orchard, or allow a hoof of any kind in it.

TO RENEW AN OLD ORCHARD

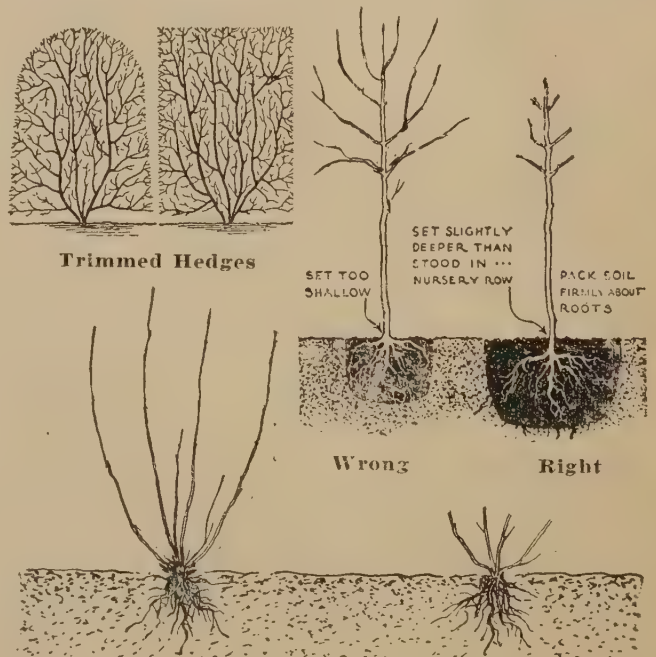
There are hundreds of orchards in the country that are not doing their best, that indeed come very near doing their worst, that with a day's work putting them into proper condition to start with, and a few hours each year put into spraying and pruning could be made to produce enough fine fruit for the family and a surplus for the market.

The first thing to do is to cut out the surplus trees. There is no use trying to make apple or plum trees do their best after the branches begin to interlock. When this trouble begins, most people trim out the lower branches that are always the first to touch each other. This is the worst possible policy for it is simply postponing the trouble, and cutting out the most valuable branches of the tree. The second and third sets of branches will soon take their places, and in their turn have to be cut out for the same reason, and so on until there is nothing left of the trees but tufts of branches way up in the air out of reach of spraying machinery, and breaking off with every high wind.

The thing to do is to make a drive on the orchard and cut out every other tree, or every two trees leaving one. There is no more reason for mourning over them than there is over last year's corn stalks that have borne their crops and done their duty. The next thing to do is to remove all dead branches in the trees that are left, sawing them off clean next to the collar, and painting over the wounds. There will no doubt be quite a good many live branches that are crossing each other and making trouble, and right here you want to go slow. If there are very many, don't cut them all out in one year, and give the tree such a shock as a man would have if all his arms and legs were removed at one time. Better take three years to do this part of the job removing the most necessary third of them the first year. You can do it at any time after the leaves have fallen that suits your convenience, if you will take the trouble to paint over the wounds to keep them from drying, checking and rotting.

SELECTING VARIETIES

In selecting varieties for a new orchard one should not choose too many of the early summer ones which must be used up as soon as ripe or go to waste. In the description of the different fruits we list will be found the length of time they may be expected to keep under favorable conditions.



Cut Shrubs and Small Fruits Back Severely at Planting Time

Apples

"The King of All Fruits," \$500 to \$1,000 per acre is often obtained in a well cared for orchard of our best varieties.

Of all the fruits grown in the Northwest, the apple and the demand for them is constantly increasing, both for home use and for shipping. No city garden should be without sufficient apple trees to produce fruit for home use and the farm garden can easily be made to bring a handsome return for the amount of labor necessary by planting a few apple trees of the right variety. The following list will be an aid in making a selection.

SUMMER VARIETIES

Anoka—This bids fair to become the most popular of all the new apples. It was introduced in 1918 and in 1920 was named Anoka, a Sioux Indian word meaning "on both sides." The fruit is 2½ inches in diameter, round, Duchess type of coloring, flesh white, good subacid, season September. It is an early and heavy bearer under propagation.

Duchess, Oldenburg—A large beautiful apple streaked red on yellow, tender and juicy. Fine for cooking, very productive. Ripens early in September.

Yellow Transparent—Medium size, white changing to lemon yellow, smooth waxy surface, of good quality with crisp flesh. Keeps well for an early apple. Ripens in August.

Erickson—Originated at Aitkin, Minnesota, and pronounced by leading Horticulturists as the hardest variety known to the apple family. Exceedingly large, of splendid flavor, solid bright red color when ripe. A hearty bearer, keeps until December. Recommended for planting where other varieties freeze out.

Benson—Originated at the University Fruit Breeding Farm at Excelsior, Minn. A fine new apple hardy and of high quality. Ripens mid-August about the same season as Duchess. Will keep three or four weeks after picking.

FALL VARIETIES

Wealthy—Fruit large, red, regular and of the very best quality. Tree vigorous and thoroughly hardy and bears very young. A good market variety. Season October to February.

Hibernal—One of the hardest apples grown. Fruit large, handsomely striped, fine for cooking and for pies. Perfectly hardy up to the Canadian line. Best for top working to winter sorts. Season September to November.

Pattens Greening—Tree extremely hardy. Productive and an early bearer. Fruit large, green when picked changing to yellow. Fair for eating and excellent for cooking. Season September to December.

Wolf River—An iron-clad that was originated near Wolf River, Wisconsin. Fruit is extremely large, greenish yellow, turning to crimson on top, tender and juicy. Season September to December.

WINTER VARIETIES

Victory—(Minnesota No. 396)—An Apple of the McIntosh type but later in season, a little more firm in flesh, generally a better color and the fruit is less likely to drop before ready for harvest. The picking season is about a week following McIntosh and it keeps at least a month longer in the winter.

Minjon—(Minnesota No. 700)—It is very hardy growing and producing far north. A medium size—a brilliant red and all-red. It resembles Jonathan; in fact, it has been called "Minnesota Jonathan". It bears abundantly and regularly, the fruit is distributed evenly over the tree and it hangs well until picked. This Apple ripens about the time of Wealthy but colors better, hangs better to the tree and brings more money on the market.

Prairie Spy—This tree was originated and recently named by the Minnesota Fruit Breeding Farm. The fruit is carmine red, keeps all winter, is the finest flavored winter apple grown. The tree is hardy, productive and a good grower.

Fireside. A large long-keeping winter Apple can unquestionably be rated as one of the highest quality varieties produced at the Minnesota Fruit Breeding Farm. The flavor would be rated as rich, sub-acid, almost sweet; the flesh is crisp, firm and juicy, and it never develops the bland, dry characteristics of some highly flavored apples at the close of the season.

Haralson—Best new keeper, originated at Minnesota Fruit Breeding Farm. An early bearing variety

Malinda—An irregular but steady grower of about the same hardiness as the Wealthy. Fruit medium, green, with blush of red. Flesh hard, good grained, sub-acid, good flavor. Season October to March.

Northwest Greening—Tree of Wisconsin origin, vigorous and hardy. Fruit large, nearly round, of greenish yellow color, flesh yellow, fine grained and firm, sub-acid, smooth and attractive. Season December to May.



HARALSON APPLE

with a tree of moderate size, roundish, well colored with an even red over the entire surface, flesh fine grained, tender, juicy, sub-acid, quality good. Keeps in common storage until early spring.

Rhoda (No. 54)—A recent but wonderful addition to our "Perkins Family," and when we consider hardiness the Rhoda is by far the best in the Perkins list. Fruit has a distinctive appearance being particularly oblong in shape, medium size, striped to deep red in color. Flesh firm, fine grained and sweet. Tree hardy and does not appear to be subject to blight. Keeps until April.

Perkins (No. 72)—We firmly believe that this apple far surpasses anything that has yet been produced as a winter variety for Southern Minnesota, Southern Wisconsin, Iowa, Nebraska and South Dakota. This apple has been kept under favorable conditions for one year and then exhibited at the Minnesota State Fair. The fruit, which resembles the Baldwin very much, is large, rich red, round as a ball and though very hard at picking time it becomes fine for eating during the middle or late winter. It is almost impossible to shake the apples from the tree until thoroughly ripe. The tree is a rapid, robust grower, free from blight and has proven perfectly hardy wherever it has been planted. Keeps well into May or June.

McIntosh—Tree vigorous with spreading head, a good annual bearer. Fruit above medium size, smooth, yellow covered with crimson, flesh snow white, crisp, very tender, aromatic and sub-acid. Season October to January.

Delicious—Originated in Iowa and is not considered hardy north of the Iowa-Minnesota line. Fruit is round, long, tapering, deep red running to yellow at the tip. Has a delightful flavor and has been kept in cold storage until May. Valuable for home or commercial orchards.

CRAB APPLES

Dolgo—A new, red-jellied Siberian Crab. This crab was brought from Russia to the South Dakota Experiment Station in 1897 and introduced in 1917. A vigorous, productive tree and exceedingly free from blight. Fruit full of juice, jells easily, makes a rich, ruby-red jelly of beautiful color and excellent flavor. The tree is a strong and sturdy grower and is winning favor in many localities.

Early Strawberry—Tree very vigorous and productive, flesh juicy, rich, sub-acid, with an agreeable flavor. August.

Florence—One of the hardiest of all and an early and profuse bearer. Fruit larger and considered by some superior to the Transcendant. August to September.

Hyslop—This variety has been long and extensively cultivated. Trees are hardy and strong, fruit large, deep red when ripe, produced in clusters. Fine for cooking and for cider. September and October.

Transcendant—An old favorite and a beautiful variety of the Siberian Crab. Red and yellow. Quite subject to blight. Not recommended on that account. August.

Virginia—A fine grower, free from blight. Fruit size of Transcendant, color red. Fine for cooking and for cider. September and October.

Whitney—Very hardy, productive, handsome foliage. A dessert apple of good quality. Color red, flesh juicy,

tender and rich. Comes into bearing very early. September.

Flame—(Minnesota No. 635)—This is primarily an ornamental crab but the fruits, though small, make an excellent red jelly. The flowers are similar to other crabs but are borne in great profusion. The tree is compact in growth and of medium size, suitable for lawn planting. The fruits are a brilliant red and hang tenaciously to the trees until mid-winter, months after the leaves have fallen. The effect is a mass of flaming red color from August until November. The fruit is attractive to winter birds.

Hopa—The red new foliage and the beautiful single red blossoms which completely cover the tree in the early spring make this tree the most attractive of spring flowering ornamental trees. The fruit is small, red inside and out, remaining on the tree until autumn. The tree is hardy and blooms while very young. A more delightful small tree, for a restricted space, could not be found.

Plums

The plum is the natural tree fruit of the North. No farm or village home even in North Dakota and Montana need be without this luscious fruit which is as easily raised in this climate as oranges in Florida or peaches in New Jersey. They begin bearing early, often the next year after planting and continue so abundantly that they bear themselves out in ten to fifteen years. The native plums of this section were small and not always of the best flavor but during the last twenty-five years horticulturists have by experimenting and cross fertilization with Japanese and European plums brought forth new and improved varieties that are equal in size and superior in flavor to the choicest California plums usually found in fruit stores.

When planted alone, or not used as filler in the orchard, plums should be planted about sixteen feet apart. Several varieties should be planted together in order to allow the blossoms to cross pollenate. Trim back to form a head about three feet from the ground and each year cut back the rank growth of the branches before they reach the size of a lead pencil. Suckers that shoot up from the roots should be kept cut away and the ground kept well mulched and cultivated. Spraying should not be neglected and should be thoroughly and effectively done at least twice each year. Should they set fruit too heavy to ripen easily shake off the excess when it is about the size of a wild cherry. This will prevent overtaxing the vitality of the tree and insure a uniform crop each year.

MINNESOTA PLUMS

Produced at the Minnesota Fruit Breeding Farm

Ember—Recently introduced by the University Fruit Breeding Farm. A large late plum, yellow with an attractive red blush. Has very fine dessert and canning qualities. Fruit clings to the tree even after ripe and after picking will keep two or three weeks.

Piebing—Introduced by Chas. Haralson, Excelsior, Minn. It is hardy and of vigorous growth, producing a regular crop of unusually large, fine quality red plums. Should be included in every home and commercial orchard.

Golden Rod—Originated in 1913, and distributed in 1923. A distinct departure from the usual type of red plum, its color being clear yellow, size large, very attractive. Because of its contrast to other plums, its firmness and good shipping qualities it is a good commercial variety.

La Crescent—The tree is large, extremely vigorous in nursery and orchard. Fruit is medium in size, skin thin, tender, easily removed. No trace of astringency; color, a beautiful clear apricot yellow, sometimes faintly blushed and covered with a delicate bloom; flesh is yellow, juicy, very tender, not fibrous, sweet, aromatic, suggestive of apricots; quality of the highest; pit small and free. Season early.

Loring Prize—This variety was originated near Faribault, Minnesota, and succeeded in carrying off the prize offered by the State Horticultural Society for the best Minnesota plum. Tree is thrifty and perfectly hardy. Fruit very large, from 1¾ to 2¼ inches in diameter, nearly free stone, bright red, flesh yellow and of a delicious flavor superior to the California plum. Fine for market purposes. Tree bears when three to four years old.

Monitor—Tree medium in size but vigorous, pro-



KAHINTA PLUM

duces a compact, rounded, well-shaped head, hardy and productive; fruit is large, roundish, well colored, with dark, dull red; flesh firm, moderately juicy, sweet; quality good; stone medium in size, cling; late mid-season. Very promising as a market plum.

Tonka—Tree of medium size and vigor, of upright spreading growth, hardy; fruit roundish, large, dark red; flesh firm juicy, sweet; quality good; stone very spreading growth, hardy; fruit roundish, large, dark small, free or nearly free at maturity; early mid-season. Especially recommended for the home and market because of Minnesota fruit breeding farm productions.

Underwood—Tree extremely vigorous, large size, of spreading growth, forming a round head, very hardy and very productive; fruit is large, roundish-oval, attractive red in color; flesh juicy, fairly firm, hangs well to the tree, ripens very early and continues over a long season; stone is small, cling; quality excellent. Ripens two weeks earlier than any other good plum.

HANSEN HYBRID PLUMS

Produced at the South Dakota Experiment Station

Hanska—A cross between the native plum and the fine fragrant Apricot Plum of China. Tree a strong upright grower and early and full bearer. Fruit large, firm, bright red; flesh yellow and of a delicious apricot flavor. Excellent for eating raw or for cooking.

Kahinta—Cross between the Japanese Apple Plum and the Terry. Fruit 1½ inches in diameter, dark

red, roundish, slightly oval, freestone, skin thin, flesh firm, yellow and sweet, and of excellent quality. Pit very small. Bears young and very heavy.

Opata—A cross between the Sand Cherry and the Japanese Gold plum. Tree very hardy, spreading grower and heavy bearer. Fruit a little larger than the wild plum, deep purplish red splashed with green; flesh deep green, firm, and of excellent quality, small pit.

Sapa—A cross between the Sand Cherry and the Japanese Sultan plum. Tree somewhat dwarf, rapid grower. Fruit small dark purplish red splashed with green; flesh and juice of a rich dark purple and of a rich flavor, small pit; excellent for canning and for sauce and pies.

Toka—This plum is of the same parentage as the Hanska and is very similar in many respects. The tree is exceedingly erect, strong, stocky, and hardy. Fruit is bright red with blue bloom; flesh yellow, firm, of good quality, rich and fragrant.

Waneta—A cross between the Terry and the Apple Plum, a large Japanese variety. The fruit is large, often reaching two inches in diameter. Fruit of a deep red, yellow flesh and a delicious flavor. Tree is perfectly hardy and a rapid grower.

AMERICANA PLUMS

Surprise—A fine native variety considered by many as one of the best of the cultivated varieties. Tree large, healthy grower and of the hardiest type. Fruit large, medium thick tender skin, bright red; flesh pale yellow, mealy, of fine flavor and good quality.

Terry—This plum has also been known as "Free Silver." Fruit round, red, of medium size; flesh yellow, firm and of fine flavor. Perfectly hardy in all sections of the Northwest.



UNDERWOOD PLUM

Cherries



OKA CHERRY

Cherries are being grown more and more throughout the Northwest. While the eastern varieties have not proven very successful in this section, particularly the sweet cherries, there has in the last few years, been considerable advancement in the production of hardy kinds. By cross breeding, horticulturists have brought out some new varieties that are particularly

adapted to this section and with fruit of a quality that compares very favorably with the older sorts. Cherries should be given the same care as plums and it is best to keep them trimmed to bush form as much as possible.

Compass Cherry—Originated in Minnesota. A cross between the Rocky Mountain Cherry and the Native Plum, and resembles both. The most remarkable fruit of recent origination. Hardy as any wild plum. Sweet, juicy and excellent flavor. Marvelously prolific bearer. Grows on any soil. Fruits every year—never misses. Bears second year after planting. Good shipper and a fine cooker. This cherry is perfectly hardy in Minnesota, Wisconsin, Iowa, the Dakotas and Montana.

Oka Cherry—Immensely productive, bearing next year after setting into orchard. Heavy, annual bearer of large, deliciously flavored fruit, having rich purple-red skin, flesh and juice unexcelled for canning, jam or jelly. Tree is very hardy; is of dwarf habit, making it easy to gather the fruit. Because of its early bearing and excellent fruit it is certainly a favorite, and we recommend it very highly.

Nicollet Cherry—The Nicollet is the nearest approach to the true sour cherry, that has been produced in the northwest. The tree is small, bush-like, finely branched, leaves small, one year shoots conspicuously reddish, hardy except in northern portions, fruit is small, roundish, oval. Skin thin, medium tough, color dull cherry red, flesh greenish yellow, tender, juicy, mildly sour, cherry like in flavor and texture, quality good. Stones small, roundish oval, cherry like. Season August.

St. Anthony—Tree very vigorous, grows somewhat larger than Zumbra or Nicollet. Fruit is a dark purplish red with russet spots and heavy bloom, flesh rich dark red, juicy, tender and fine grained. Excellent for culinary purposes.

Zumbra Cherry—A low growing tree, vigorous and very productive, showing the characteristic profuse bearing habits of the sand cherry crosses. The fruit reaches one inch in diameter and is borne in thick, rope-like clusters along the slender branches of last year's wood. Color very dark, nearly black when ripe; flesh firm, greenish, sometimes tinged with red when fully matured; stone small, free; quality good with a flavor resembling its sweet cherry parent. This cherry is destined to surpass all other productions for cherry growing in Minnesota, the Dakotas and Wisconsin.

Pears

Cashman Pear—The hardiest pear we have yet found for Central and Southern Minnesota. Parent tree found growing near Ortonville, Minnesota, apparently hardy and vigorous for that locality. Fruit is of good quality for both canning and eating.

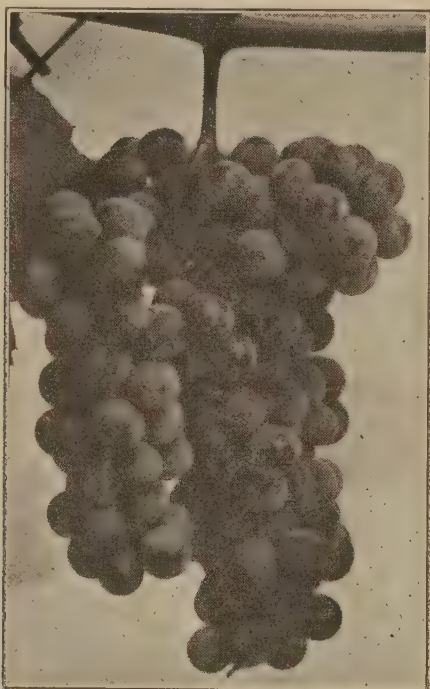
Parker—Minnesota No. 1—This introduction by the Minnesota Fruit Breeding Farm has proven of great value in this climate, the seed being imported from Manchuria. Tree is large, vigorous and free growing; very winter hardy. Fruit is medium to large; flesh tender, medium fine grained, juicy,

sweet. Season mid or late September.

Patten—The tree is distinctly upright in habit, with large, healthy foliage. The blossoms are large handsome white. Fruit when well grown, is medium to large size, favors Bartlett in general form, smooth and regular; color green, turning to yellow as it ripens. The skin is quite thick but becomes quite thin and tender as it ripens. The flesh is very tender, juicy, rich sub-acid, refreshing and very good quality. The tree is not considered entirely blight-proof in northern localities. Season, September.

Grapes

It is only recently that grapes have received any particular attention in the Northwest and it is very doubtful if any fruit has made more rapid strides in this section than the grape. Many can remember when the cultivated grape was almost unknown here, likely because of the fact that Eastern grapes could be bought upon the market in their season for from ten to twenty cents a basket, while today the baskets alone cost nearly that amount. Today this is all changed. The Eastern and Western grape has advanced in price until it has almost become a luxury and in its place has been brought fruit of native origin



BETA GRAPE

that is equal in every respect to those of former years. They should be planted in good rich soil in a sunny location and cut back to six inches from the ground at planting time. It must be remembered that grapes bear on new wood only and should be cut back about two-thirds of the year's growth after the leaves fall each year. A three wire fence is perhaps the most satisfactory trellis on which to train them, but the posts should not be more than a rod apart in order to furnish sufficient support for the heavy new growth each year. Set plants eight feet apart in the row and rows eight feet apart. Many of the varieties we are listing are the product of the Minnesota Fruit Breeding Farm, where they have been given the most rigid tests.

Minnesota No. 66—A vigorous grower with attractive foliage making it useful as an arbor plant. The fruit is unusually large, borne in medium size clusters; skin tender, yellowish green color; flavor sweet, mild, pleasant; quality as a dessert fruit good; season slightly later than Beta.

Minnesota No. 69—Another valuable introduction by the Minnesota Fruit Breeding Farm. Hardy and vigorous. Grows close on bunches and bears profusely. Fruit large, sweet and equal in quality to Moores Early.

Alpha—A recent production somewhat like the Beta but considered by some to be superior. Fruit a trifle smaller than the Concord and sub-acid. Perfectly hardy in all sections.

Dakota—A product of the Minnesota Fruit Breeding Farm that has become well established throughout the Northwest. Fruit large, slightly sub-acid and borne regularly in large clusters. Very hardy.

Beta—A northern seedling crossed with the wild grape which has proven entirely hardy in North Dakota without winter covering. Fruit of medium size and of a flavor midway between the Concord and the native wild grape. Ripens early and is seldom affected by late spring frosts.

Concord—An old standard variety and the most popular grape in America. Fruit large, round, sweet and borne in huge clusters. Vines hardy and vigorous.

Moore's Early—Ranks next to the Concord for both home planting and commercial vineyards. Less vigorous and fruitful than the Concord but earlier and somewhat better quality.

Gooseberries

There is probably no small fruit grown in the gardens of the Northwest that produces so abundantly every year with so little care as the Gooseberry. They do well on any soil that is suited to wheat or potatoes and there is always a good market for the fruit. Cut back same as currants and set from three to four feet apart in the rows and the rows four feet apart to allow for cultivation. Spray thoroughly as soon as the leaves are out and again when the fruit is set (see spray program). Gooseberries, like currants, bear on both old and new wood, but all wood three years old should be kept trimmed out as the fruit of the younger wood is larger. Keep cultivated and mulched during the summer.

Carrie—Of Minnesota origin. Fruit pale red, of good size and excellent quality. Bushes quite free from thorns, very thrifty, and not much subject to rust or mildew.

Champion—An Oregon seedling. Fruit large and of good quality. Very productive. Hardy and well adapted to this section.

Downing—This is perhaps the most popular gooseberry on the market, though not quite as hardy as some. Fruit light green, sweet and fine, large in size.

Houghton—Pale red when fully ripe. Thin skin of the best quality for canning and pies. Bears abundantly and is perfectly hardy anywhere.

Pixwell—This new Gooseberry was originated at the North Dakota Station. Berries hang on slender stems about two inches below the branches which make picking a quick and easy operation. Absolutely hardy, a vigorous grower and abundant bearer. Berries large, oval, light green turning to pink when ripe.

Currants

No farm or city garden should be without currants. They can be planted along the edge of the garden or between apple and plum trees. They are fine for sauce and pies and make excellent jelly. They need only ordinary care. When planting cut back severely and set them three to four feet apart in the row and the rows four feet apart. Mulch with well rotted manure and spray each year as soon as the leaves are out and again when the fruit is set. After the fruit is picked, cut out all wood that is three years old. This will allow for a greater growth of new wood for the following year.

Diploma—One of the best new red varieties. Bears abundantly. The fruit is large and of good quality. Does not need winter protection.

Red Lake—A new red currant originated at the Minnesota Fruit Breeding Farm. It is exception-

ally large and of fine flavor. This variety has been tested for several years and has proven to be the largest and finest currant for both home and market use.

London Market—Bush vigorous, upright, fruit medium to large, color dark red, sprightly acid flavor, very productive.

Stewart—A fine red currant somewhat resembling the London Market only the fruit is larger and the plants stronger. The quality of the fruit is very good. Perfectly hardy throughout the Northwest.

White Transparent—One of the very best white currants. Fruit large, sweet and firm, borne on heavy long clusters. Bushes are prolific and remarkably free from disease. Make excellent pies and sauce.

Wilder—One of the best varieties grown. Superior in every way to the common sorts. Branches and berries large, color red, splendid quality.

Raspberries

The Raspberry is one of the best small fruits for the Northwest and can be grown almost anywhere without any great amount of care. It is one of the most palatable of all fruits with practically no waste or extra work in canning, and produces good crops every year. There is always a good demand for Raspberries and the prices are always high. Plant either in rows six feet apart and three feet apart in the row or in hills four to five feet apart. Care should be taken not to plant too deep; cover the bud and roots with about one inch of dirt. Cut the canes down to about six inches at planting time and as the new shoots come up pinch the tops back when about two feet high to make them stalky. Raspberries bear on new wood and after picking time all old canes should be cut out. Cultivate only enough to keep the weeds down and only shallow as the roots grow near the surface and are easily injured. Mulching with well rotted manure always pays. Spray just before buds open with lime sulphur or Bordeaux Mixture. All red raspberries sprout from the root.

RED RASPBERRIES

King—A good standard variety that has given universal satisfaction. Berry is large, firm, bright red and a good market sort.

Latham—The plants are hardy, unusually vigorous and productive, strong plant producers; canes robust, tall, nearly thornless, reddish with heavy bloom. The fruit is large, frequently an inch in diameter, berries frequently double in early pickings, broad, roundish; color bright attractive red; very firm, medium juicy, medium sweet, quality good to very good. Season medium to late, fruits ripen over a long period. Latham is the name given to the raspberry that was originally known as Minn. No. 4.

Chief—The plant is very vigorous, stocky, very hardy. Season early, one week ahead of Latham. Fruit attractive bright red, firm, quality very good. This variety in some sections has outyielded Latham.

Newburgh—A New York variety that is doing well in this locality. Fruit is large, very firm and does not crumble, color attractive bright red. It has good keeping and shipping qualities and is very productive. Needs winter protection in Minnesota.



LATHAM RED
RASPBERRY

PURPLE CAP RASPBERRIES

Columbian—Plant a giant in growth, very hardy. Fruit large, dark red, rich juicy and delicious flavor, does not drop from bush. Does not sprout from roots.

BLACK RASPBERRIES

Cumberland—Berries large and even in size, bears abundantly and ripens mid-season. Strong grower and one of the hardiest.

Gregg—Of good size, fine quality, productive and hardy, firm, sweet and rich. Strong grower and good bearer. Ripens late and evenly and is a good market berry.

Kansas—One of the best black caps. Large, round, firm, moderately juicy, strong grower and very productive; ripens early; considered one of the best market berries on account of handsome appearance.

Older—One of the lately introduced varieties which has been receiving considerable attention in the Northwest. Ripens a trifle earlier than the Gregg. Hardy and reliable. Does not sprout from roots.

YELLOW RASPBERRIES

Golden Queen—A very sweet berry that is especially fine for table use when fresh, canes are hardy and productive, requires rich soil. A golden color especially attractive when preserved. A good variety for home use.

Blackberries

Blackberries are a wonderful fruit and help to fill the gap between raspberries and grapes. They are easy to grow, requiring about the same culture and care as Raspberries and succeed on most any well drained soil. All Blackberries sprout from the roots. Fruit is large, firm and fine for canning and pies. Blackberries should be covered in winter. Remove a spadeful of earth from the side of the plant, bend at the root and cover the entire plant with about two inches of dirt.

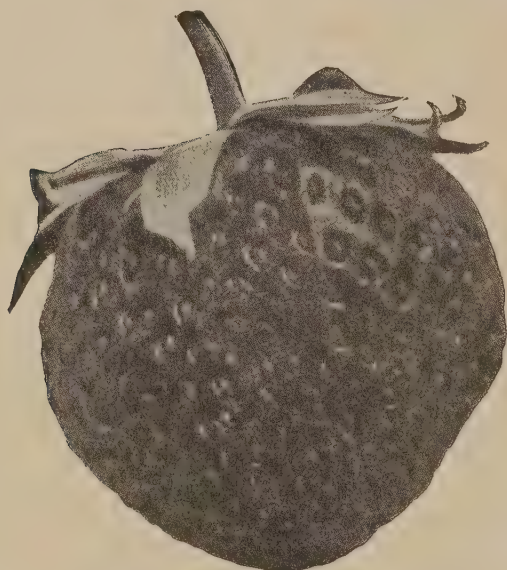
Alfred—The large jet black berries are sweet

and juicy and are often one and one-half inches long. It is called the coreless black berry. Winter protection in the North is recommended. It is about ten days earlier than the Eldorado and more productive.

Snider—Medium size without hard, sour core. Not as thorny as other varieties. Extremely hardy and very productive. Ripens in good season.

Ancient Britton—A remarkable market variety of medium size and best quality. Very hardy and berries sweet.

Strawberries



WAYZATA STRAWBERRY

Everybody likes strawberries and there is no reason why anyone with even a small city lot cannot have an abundant supply for the table throughout the summer season. There is no fruit that produces so well for the small amount of ground required and the little care necessary. As a commercial enterprise they are also very profitable as there is never enough strawberries on the market to supply the demand and the price is always good. An acre of strawberries can easily be made to produce a net profit of five hundred dollars after it comes into full bearing. Strawberries succeed well in any soil that is adapted to ordinary farm or garden crops. Soil should be thoroughly prepared, well drained and enriched. For field culture set the rows three and one-half to four feet apart and fifteen to eighteen inches apart in the row. For garden the rows may be set closer. To produce fine berries do not allow the rows to become too heavily matted. Pinch off the runners as soon as they get out about a foot from the row, leaving plenty of room for cultivation and mulch. After the ground is frozen in the fall cover the plants with two or three inches of clean straw and this mulch should be raked off and left between the rows early in the spring. Care should be taken not to plant strawberries too deep nor too shallow, but so that the bud at the base of the leaves will be even with the surface of the soil. June bearing varieties should not be allowed to fruit the first year but with the Everbearing varieties if the blossoms are kept pinched off until the first of August they may be allowed to bear a crop in the fall.

JUNE BEARING VARIETIES

Burgundy—(Minnesota No. 1192)—Later than other June varieties it extends the marketing season materially. Has excellent canning and freezing qualities and stands up well under handling and shipping conditions. It has imperfect flowers and must be planted next to some perfect flowered variety. Plants are extremely hardy.

Senator Dunlap—An old standard variety that has been the leader for many years. Rampant runner, should be restricted in production of plants. Fruit good size, regular form, beautiful bright red, glossy, firm, splendid keeper and shipper, excellent quality.

Premier—One of the most productive and best well tested early varieties. Fruit highly colored, firm, a splendid shipper, of superb quality. Strong, clean foliage, plant grows and spreads over its loads of fruit, protecting it from sunscald and rot.

Beaver—This variety was originated by C. H. Beaver, Eau Claire, Wisconsin, and is a cross of Dr. Burrill and Premier. Is a perfect blossom plant, with dark green foliage, very strong and vigorous, good runner maker and drought resister. The berries are large and of a deep glossy red which extends over the entire berry to the heart of the fruit. Is very productive, hardy and frost resistant in both bud and blossom. The fruit is very firm and of such texture that it does not require picking more than twice a week.

FALL OR EVERBEARING VARIETIES

Brune's Marvel—Without doubt the most valuable yet produced. Berries as large as Wayzata, clear red, ripens early, sweet quality. Best keeper of all and stands dry weather, produces heavy foliage. We recommend it above all other varieties.

Wayzata—This variety has proven far superior to all other strawberries at our nursery. The fruit is large, beautifully colored and the flavor is positively delicious. The plants are large, vigorous, healthy and splendid producers. Whether for home or market purposes, Wayzata is now commonly accepted as the best everbearing strawberry known.

Gem—The berries are large, bright red and roundish in shape. Of good flavor and quality. It is a good market sort as the berries are firm and handle well without injury. Unlike most everbearers, this variety is a good plant maker.

Duluth—Entirely hardy in central and northern Minnesota and in Canada, a fair plant maker and produces heavily both spring and fall when grown in the hill system. Foliage heavy, leaves medium size, dark green, covering and partially protecting the blossoms. Flowers perfect and medium in size, conical, dark red, with seeds slightly raised and red when fully ripe; flesh red, moderately juicy, fairly firm, slightly sub-acid; aromatic; of good quality. Spring crop late.

Mastodon—There is no question but what the Mastodon is the largest berry ever produced, and they are just as highly flavored and sweet as they are big. This variety was introduced in Indiana but a few years ago and in a very short time, has thoroughly proven its superiority over all other varieties. Ripe berries may be picked in about three months after plants are set, and they continue bearing wonderful large juicy fruit until freezing time. The second year they bear a crop in June and July and after a six weeks rest, commence bearing again and continue until winter sets in.

Plan Before You Plant



NEW HARDY APPLES

Rich, Sweet, Delicious Flavors—Crisp, Firm, Juicy Flesh

Productive Trees for Tough Climates



MINJON—2/3 Size
(Minnesota No. 700)

MINJON

A "MINNESOTA JONATHAN." By actual performance it has earned a place in the forefront of our Apple orchards. It is one of the top three varieties. It has many points of superiority. In the first place, it is **very hardy**—growing and producing far north. It is one of our **most attractive Apples**—a medium size—a **brilliant red and all-red**. It resembles Jonathan; in fact, it has been called "Minnesota Jonathan" for some years.

It bears **abundantly** and **regularly**, the fruit is distributed **evenly** over the tree and it **hangs well** until picked. This Apple ripens about the time of Wealthy but **colors better, hangs better** to the tree and **brings more money** on the market.

CASHMAN NURSERIES, INC.

Growers of Dependable Trees and Nursery Stock

OWATONNA, MINNESOTA



HARALSON

Forty-five Successful Years in the Nursery Business!

Cashman Nurseries, Inc., have spent forty-five years in developing and selling new, hardy varieties for their customers in the Northwest. Over 1200 acres are used in growing dependable trees and nursery stock.



FIRESIDE

HARALSON

In the past ten years Haralson has been the most popular Apple in this district. It is a **hardy tree, stands heat and cold**. It has **strong crotches**, seldom splits or breaks. It **bears early**, often the third year after planting. It **bears heavily**, in fact, often needs thinning. Finally, it is a **large, all-red** Apple that **keeps throughout the winter** in ordinary storage. It's a grand all-purpose Apple for home or for market.

At the time Haralson was introduced, Professor Alderman, Chief, Division of Horticulture, University of Minnesota, said of it: "**Its size, shape and color are just right for an ideal commercial Apple**. The tree is **extremely vigorous, productive and hardy**. The branches spring at wide angles from the central trunk and are **very strong in the crotches**. The fruit will keep in an ordinary cellar throughout the winter without artificial refrigeration."

FIRESIDE

(Minnesota No. 993)

"**A SUPERB DELICIOUS.**" Minnesota has achieved another remarkable success in fruit breeding! The **State Fruit Breeding Farm** has succeeded in developing a new **Delicious Apple**, hardy enough to thrive in this northern country. We offer Fireside for the first time this year. It is one of the top three varieties.

As most people know, the common Delicious Apple is not hardy or dependable in any but favorable climates. This new Apple, **FIRESIDE** not only **has a flavor equal or superior to the common Delicious** but the tree is hardy and productive even in the severe climate of Minnesota.

Prof. Alderman, Chief, Division of Horticulture, University of Minnesota, says of Fireside: "**This large long-keeping winter Apple can unquestionably be rated as one of the highest quality varieties produced at the Minnesota Fruit Breeding Farm. The flavor would be rated as rich, sub-acid, almost sweet; the flesh is crisp, firm and juicy, and it never develops the bland, dry characteristics of some highly flavored apples at the close of their season.**"

PRAIRIE SPY

Originated at Minnesota Fruit Breeding Farm

EXTREMELY HIGH QUALITY—**Prairie Spy** is for discriminating people—those who are not satisfied with common Apples. It's for people who appreciate **extra fine quality**. It is one of the top three varieties.

Prairie Spy has this **exceptional quality**—not only for eating, but for cooking as well. What is more, you can enjoy it over a long period, all through winter and early spring, long after other quality Apples are off the market. It has no competition in a **late keeping, high quality Apple**.

Benjamin F. Dunn, President, Minnesota State Horticultural Society, says of **Prairie Spy**: "Our beautiful, red **Prairie Spy Apple** is a **late-keeping winter Apple** of **EXCEPTIONAL quality**. The trees are hardy, vigorous and productive.

ABSOLUTELY HARDY—The Armistice Day storm of 1940 caused untold damage to tender and half-hardy Apple trees. **Prairie Spy** came through that testing time without a scratch and is reported favorably as far north as Morden, Canada.

HEAVY CROPPER—HANGS WELL TO TREE—**Prairie Spy** carries good loads of fruit which hang well till ready to pick.



PRAIRIE SPY

VICTORY

(Minnesota No. 396)

Leading Fruit Growers consider this New Apple is superior to both McIntosh and Cortland. Professor Alderman, Chief, Division of Horticulture, University of Minnesota, says of Victory: "An Apple of the McIntosh type but later in season, a little **more firm in flesh**, generally a **better color** and the fruit is **less likely to drop** before ready for harvest. The picking season is about a week following McIntosh and it **keeps at least a month longer** in the winter. Not only is it of **high dessert quality equaling or exceeding McIntosh** but it also has **excellent culinary qualities** for use in **baking, pie-making, Apple sauce** or uncooked in **fruit salads**."

Fruit Growers plant Victory because it is better quality than McIntosh—it **hangs better** to the tree—it has a very **short stem** which does not puncture the fruit when packed as McIntosh stems often do—it is **better for baking or cooking** and it is altogether **more profitable and satisfactory**.



VICTORY

MINNESOTA No. 638

This has been called "Winter Wealthy" but that hardly does it justice. Professor Alderman says: "Many growers who have observed this **handsomely colored solid red Apple** have acclaimed it as the **most promising commercial variety of the new varieties**. Evidence in support of this view is found in its **consistent annual cropping**, its **even distribution of fruit** throughout the tree and **lack of clustering**, the **even size and clean, attractive finish of the fruit**, its **ability to hang** to the tree in high wind, and its **mild but pleasant flavor**." It requires a long season to develop full maturity, harvest usually coming about the middle of October. It is **classed as a winter Apple but is not a long keeper**. In common storage it should be used before the end of January. No. 638 has not failed to produce a crop in 23 years.



MINNESOTA No. 638

ANOKA

ANOKA has a quality possessed by no other apple today . . . a quality which accounts for its cordial reception all over the country . . . the uncanny ability to bear on one-year wood. Anoka bears in the nursery row, and will bear in your orchard one year after it is set out.

ANOKA—for the Cold Northwest—Anoka was bred in South Dakota and has made good in North Dakota.

Professor Yeager, Horticulturist, North Dakota Experiment Station, says: "The Anoka is in my opinion the most promising apple we have at present in North Dakota. The fruit is good to eat, better, in fact, than such varieties as Duchess. Anoka seems to point the way toward a new type of apple which will not require as many years to come into bearing."

ANOKA—Resists Blight—There is not much cure for this disease—the only practical thing is to plant varieties that do not blight.

Professor Yeager says: "Anoka resists blight better than most varieties."

ANOKA—Ripens Early—It ripens early before most of our apples are ready and is a most welcome early summer eating apple—better flavor than Duchess.



BEACON— $\frac{3}{4}$ Size

BEACON

Originated at Minnesota Fruit Breeding Farm

FOR HOME—Beacon is early, but unlike most early Apples, it is not quickly perishable. Even though it ripens with or just a few days later than Duchess, it keeps easily into the Wealthy season. This **good handling and keeping quality**, together with **all-red color** make Beacon a very exceptional early Apple.

OR FOR MARKET—Beacon colors a bright red in August and keeps well up into October. It's uniform in shape and firm—ideal for handling and shipping—outstanding on any market.

The Beacon Apple is apparently establishing itself very satisfactorily throughout Minnesota and the surrounding territory. The fact that it is very hardy and of early maturity makes it a valuable home orchard variety in the northern and western parts of the state. The commercial growers in the Southeastern quarter of the state are reporting marked success with Beacon because its high color, its dependable bearing habit, and its good handling qualities make it a good market Apple for the early season.



ANOKA

CASHMAN NURSERIES, INC.

Growers of Dependable Trees and Nursery Stock

OWATONNA, MINNESOTA

Miscellaneous

Asparagus—Can be planted either in spring or fall. Dig a narrow trench at least ten inches deep and fill the bottom with three inches of well rotted manure. Cover this with two inches of black soil in which plant the Asparagus. Cover with two more inches of dirt and leave balance of trench open until the plants grow out. Set plants one foot apart and rows two to three feet apart. Give a good top dressing of manure in fall, working it in between the rows in spring. Liberal applications of salt are also beneficial. We grow

Washington Rust Proof, and Conover's Colossal, which we consider the best.

Horse Radish—Too well known to need description. Grows anywhere. We offer strong roots which should be planted in the spring.

Rhubarb—Easiest culture. Just what we need in spring for pies and sauce to thin our blood. A great medicine. We grow two kinds, Ruby, with tall, coarse, pink colored stems, and Macdonald called wine plant, with smaller stalks, more tender and very fine quality. Both entirely hardy.

Hardy Perennials

One of the essentials in securing a bright and lovely garden or border is color, and to get this you need perennials. Most of the shrub planting is to secure foliage, the quiet green against the house foundation or along the border lines. In order to secure a succession of color from spring until fall liberal use should be made of perennials. Their range of height, foliage, color and time of blooming is so varied that they are really indispensable. The perennial is a plant with a hardy root system which lives in the ground from year to year while the top dies back in the late fall. They thrive best in moderately rich soil not too wet. It is well to cultivate deep in the preparation of the ground so that the root growth will extend far below the surface and eliminate the need of watering. After the ground has frozen a few inches they should be mulched with leaves, straw, coarse manure or clean litter of any kind and this should be left on for a time in the spring to prevent freezing and thawing, which is very injurious to the young shoots. After the danger of frost has passed it can be raked from the plant and worked into the soil or left on top as a mulch to conserve the moisture. In selecting perennials care should be exercised to provide, not only a liberal contrast in the color scheme, but also a succession of bloom from spring until fall. The following list covers a range sufficient for all purposes.

Achillea, The Pearl—Pure white double flowers borne freely in clusters. Very effective to soften conflicting notes in the color scheme. 15 to 24 inches. All summer.

Anchusa, Dropmore—Tall spikes of beautiful purple flowers, flowering all summer. Rough broad foliage. 4 to 5 feet. June to September.

Baby's Breath, Gypsophila—Dense spreading symmetrical foliage covered with minute white flowers having a beautiful gauze-like appearance. 2 to 3 feet. July and August.

Baptisia, Australis—The attractive blue pea-shaped flowers are borne in short spikes. Will stand partial shade. 2 to 3 feet. May and June.

Bleeding Heart—Have long racemes of pink flowers which are always attractive. Come up early in the spring and flowers immediately. 2 feet. May to July.

Canterbury Bell, Campanula—An old favorite with beautiful bell flowers in pinacles, blue to white. Protect heavily in winter. 18 to 24 inches. June and July.

Chinese Lantern Plant—A unique and very interesting novelty. Grown for the highly colored bladder-like fruits, or seed pods which cover the bush in late summer and autumn. These fruits average about 2 inches in diameter and are a brilliant orange-red when ripe, and because of their shape and texture, the bush is properly called "Chinese Lantern Plant." The branches when dried, make beautiful winter decorations, retaining their brilliant color a long time.

Columbine, Coerulea—They come in assorted colors of blues, whites, yellows, pinks and rose. Grow in almost any soil but prefer well drained sandy loam. 12 inches. April to July.

Corcopsis, Lancolata—An improved variety with large bright yellow flowers, one of the best hardy plants. Fine for cut flowers. 20 inches. June to October.

Dianthus Plumarius—The hardy pinks have a spicy fragrance without which the garden is incomplete. Their perfect form and rich coloring make them great favorites for summer bouquets. 10 inches. June.

Echinacea—A very hardy plant, coarse foliage of dark green. Rose colored petals with dark colored raised cone in center. 3 feet. June and July.

Flax Perennial—A new perennial resembling somewhat the field flax when in bloom. Blossoms of a light blue which can be increased by clipping the heads as the flowers die. 15 inches. May to October.

Fox Glove, Digitalis—A biennial which under proper conditions will seed itself. Very attractive in the border. Sold only in assorted colors but are mixed from the best plants. 2 to 3 feet. June to July.

Giant Daisy, Pyrethrum—A hardy tall growing plant throwing out long stems which bear clusters of pure white flowers with yellow centers. Blooms late in the summer and continues until frost.

Gaillardia, Grandiflora—The flowers are of gorgeous coloring. The center is of dark red-brown, while the petals are marked with brilliant crimson, orange and vermilion and often a combination of all in one flower. 15 inches. All summer.

Golden Glow, Rudbeckia—Has wide and striking range of foliage and an abundance of double yellow-golden flowers, shaped like a cactus dahlia. 5 to 6 feet. July and August.

Helenium, Dutumn—Late bloomer. Flowers of a rich deep cream, foliage dark green. Similar to the Riverton Gem except in color. 2 to 3 feet.

Helenium, Riverton Gem—Bloom in late summer and fall when plants, about two feet high, are covered with old gold flowers suffused with bright terra-cotta changing to red.

Hibiscus, Mallow Marvels—A robust type of upright habit, producing an abundance of flowers of enormous size in all the richest shades of crimson, pink and white mixed colors. 4 to 5 feet. August and September.

Hollyhocks—These stately majestic plants are as old as the country, but the double sorts are not so well known. We have them in double pink, double white, double cream, also assorted colors in both double and single. 6 to 8 feet. June to September.

Larkspur, Delphinium Belladonna—Most continuous bloomers of all Larkspurs, with delicate, clear turquoise blue flowers. 18 inches. June and July.

Larkspur, Chinese—A dwarf variety with fine feathery foliage and deep gene-tian blue flowers. 2 feet. July and August.

Perennial Sweet Pea, Lathyrus—An exceedingly hardy and interesting plant adapted for wild tangles or rookery work—never in the border. The flowers



are clustered, of assorted colors, very odorous and borne profusely. Fine for a trellis or fence. June to September.

Hardy Narcissus—A beautiful perennial of strong growth, dark green foliage. Flowers profusely of a rich white color. 15 inches. May.

Lily-of-the-Valley, Majalis—The daintiest and most lovable of all garden herbs. Flowers pure waxy white and in graceful drooping racemes. 6 inches. May.

Monarda, Didgma—Second only to the Cardinal Flower in the intensity of its crimson flowers. Rather coarse and aromatic. Most effective at a distance. 20 to 30 inches. June to August.

Physostegia, Virginiana—Used for border with striking effect. Flowers one inch long in white, rose and purple. 2 to 3 feet. July and August.

Physalis, Franchette—An ornamental variety of the Winter Cherry, forming dense bushes about two feet high, producing freely its bright orange-scarlet lantern-like fruits, which when cut will last all winter.

Platycodon, Grandiflora—Old fashioned flowers of the garden, very regular in growth and habit. Large showy deep blue flowers. 18 inches. June to October.

Poppy, Orientalis—Enormous fiery red flowers six to eight inches across with a satiny crimped texture and peculiar hairy stems. Effective for use with shrubbery. 2 to 3 feet. May to July.

Pyrethrum, Hybrid Single—Flowers are variegated

and are borne on long stems, most convenient for decoration. May and June.

Sedum, Spectabilis—One of the prettiest erect growing species, attaining a height of eighteen inches, with broad, light green foliage and immense heads of showy rose colored flowers. August to October.

Shasta Daisy, Medium—A practical creation of Luther Burbank that is deserving of greater use. Flowers of pure glistening white, adapts itself to any soil or location. Excellent for cut flowers. 18 inches. June to September.

Sweet William, Barbatus—One of the best and most satisfactory of the old fashioned plants. We furnish them in assorted colors of an endless variety. 15 inches. June and July.

Thousand-to-One-Aster, Boltonia—A hardy native perennial that has been propagated for years. Large aster-like flowers of pink, slightly tinged with lavender. 4 to 5 feet. June to September.

Veronica, Longifolia—One of the handsomest blue flowering plants. Spikes completely studded with blue flowers. Fine for cutting and one of the best plants for the hardy border. 2 feet. July to September.

Yucca, Filamentosa—A very striking plant of tropical appearance. A stiff clump of sword-like leaves is surmounted by a stalk of beautiful creamy white bell-shaped flowers. Well adapted to isolated positions on the lawn or on dry banks where other plants do not thrive. 5 to 6 feet. June and July.

Phlox

As a perennial the Phlox ranks high among the most permanent and satisfactory. The foliage is good during the entire summer and the flowers range in all shades from white to deep red and purple and last from July to October. The flower is best adapted to massed planting either in beds or along the border. Set Phlox in a warm sunny place in deep rich soil. On account of the long blooming season the Phlox is a heavy feeder and should have frequent fertilization and cultivation. The following list is recommended for beauty and hardiness:

Champ Eysee—Red.

Commander—Pink.

Eclairaux—Purple.

Jean De Arc—Late tall white.

Milly Von Hoboken—Pink.

Mrs. Chas. Dorr—Light purple.

Mrs. Jenkins—White.

Mrs. Lingard—Early white.

Nemaha—Dwarf White.

Pantheon—Pink.

Pluton—Red.

Prof. Schleimann—Pink.

R. P. Struthers—Pink.

Reinlander—Pink

Richard Wallace—White, pink center.

Thor—Pink.

Van Lassburg—White.

Widar—Purple, white eye.

Yules Sandeau—Pink.



PHLOX



PEONY

Peonies

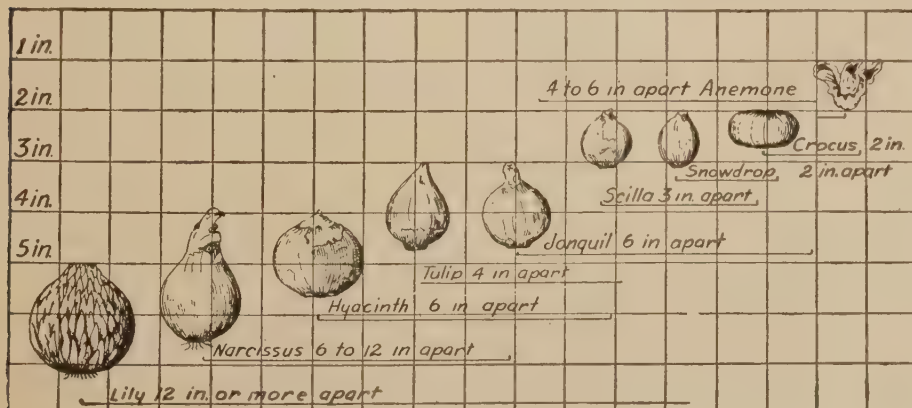
There is no flower today that has so many real admirers in America as the Peony and no flower that is so universally grown. There are thousands of people who grow large blocks of peonies of many varieties purely for the pleasure and recreation they get out of it, in fact the "Peony Fan" is getting to be about as numerous as the "Sport Fan." No matter how large or small the flower garden, it seems the Peony must be there with its rugged dark green foliage and massive yet delicate blooms to complete the picture. Not only is this true but the Peony will stand more abuse and neglect than almost any other flower and yet serve well its master. Of course no one wants to abuse anything so grand and beautiful as a Peony and if you will give them the ordinary soil and care that you would any other flower you will be delighted with the results and well repaid for your efforts. Plant Peony roots in good rich, well drained soil, from two to three feet apart each way. Cover with three, or not over four inches of loose dirt and pack well. If planted too deep they are liable not to bloom and if too shallow the frost is very apt to heave the crown eyes

out of the ground and kill them. Give them plenty of water just before blooming time. In the fall cover the bed with about two inches of coarse manure and in the spring rake it away from the plant and work into the soil. As the plants become well filled after three or four years take up the roots early in September and divide them, leaving three or four good crown eyes to each division. These should be planted at once in a different location, or if planted in the same place it is best to dig out the old earth around the plant and fill in with new. Do not be discouraged if your blooms are not what you expected the first and second year as Peonies seldom bear true to type during the first two years. Wait until the third year and you will know exactly what you have. The following list will give you a wide range of colors from which to select.

Albero —White.	Karl Rosenfield —Dark red.
Albrecht Von Schoeffelt —Rose.	Karl Verdier —Rose.
Alexander Dumas —Pink and cream.	Louis Van Houtti —Red.
Benjamin Franklin —Crimson red.	Madam Crousse —White.
Couronne D'Or —White and yellow.	Madam Colet —White.
Chas. McKillup —Crimson.	Madam Smith —Pink and cream.
Delachel —Red, gold center.	Mme. de Verneville —White splashed with pink.
Delicatissima —Pale pink.	Meissner —Red.
Duchess De Nemours —White, lemon center.	Mons Jules Elie —Lilac pink.
Eugene Verdier —Pale pink and cream.	Princes of Darkness —Dark maroon, gold center.
Felix Crusse —Red.	Richardson's Rubra Superba —Late, red.
Festiva Maxima —White, red blotches.	Richard Carvel —Bright crimson.
Golden Harvest —Cream, light pink border.	Whitley —White, pink and cream center.

Bulbs For Fall Planting

The hardy spring blooming bulbs form one of the most valuable of the garden's assets. There are so many varieties of them and so many of them of such simple culture that the least experienced need not hesitate to undertake the growing of them. The most satisfactory soil for growing bulbs is a fibrous loam, well supplied with sharp sand and it should also possess good natural drainage. They should be planted only in the fall in order that their roots may become established for the very early bloom. After the ground is frozen mulch the bed with clean straw or litter and rake away early in the spring. Do not use fresh stable manure at any time, either in the soil or as a mulch or you will have no flowers. An ideal way is to plant in irregular patches at the edge of the shrubbery, borders or about the lawn beneath the trees. Beds may be used and definite color schemes worked out. A thin layer of sand upon which to lay the bulb will well repay for the trouble. The accompanying diagram shows the depth to plant the different bulbs.



Tulips

The tulip in spring brings a wealth of colors and shades of a wonderful richness in texture. The early tulips, both double and single, begin to flower in April. We have selected what we think to be the best varieties of the different colors.



TULIPS

Early Single—Red, pink, yellow and white.
Early Double—Red, pink, yellow and white.

BREEDER TULIPS

Cardinal Manning —Dark rosy violet, flushed rosy bronze.	Madras —Dark bronzy yellow and old gold.
Clio or Bronze Queen —Apricot colored bronze.	Medea —Rosy carmine, tinged with salmon.
Yules Tave —Bronze, inside light.	Panorama —Deep orange red shaded with mahogany.

DARWIN TULIPS

The Darwin Tulips are beautifully outlined, cup-shaped and carried on tall, stiff stems, 18 to 24 inches in height. They bloom in May.

Bartigon —Carmine red.	Rev. Ewbank —Vivid heliotrope lilac.
Baron De La Tonnaye —Bright rose.	White Queen —Lovely soft white.
Clara Butt —Salmon, rose pink.	Zulu —Rich velvety purple black.
Farncombe Sanders —Fiery rose scarlet.	Inglescombe Yellow —Pure yellow.
Pride of Haarlem —Bright rose, suffused with purple.	

Narcissus or Daffodills

The varieties in our list have been carefully chosen from the large number of varieties grown abroad and have been thoroughly tested.

Alba Pleno—Double white.
Princeps—Trumpet yellow.

Hyacinth

A bed or border of Hyacinth proves attractive to every beholder. With their brilliant colors and delightful fragrance together with their long keeping qualities and decorative appearance they command a valuable place in every home and garden. Good enriched soil and extra care will be appreciated and repay many fold. We furnish them either assorted or in the following colors: Blue, red pure white and pink.

Crocus

One of the earliest flowers to open in spring, the Crocus makes an effective show when planted in masses or where three or four rows are arranged in the border. They are perfectly hardy and can be left in the ground for several years without being disturbed. They come assorted in many varieties and shades of white, yellow, lavender and purple.

Bulbs For Spring Planting

To bring beauty during late summer and fall when most of the earlier flowers have come and gone there should be a liberal planting of Dahlias, Cannas and Gladioli. They will help round out the season in a pleasing way. They cannot be treated as other bulbs or perennials as frost is fatal to the tubers. Dig them up in the fall before the ground freezes and after they have been thoroughly dried and cleaned store them in a cool, dry part of the cellar in shallow boxes.

Cannas—A wonderful bedding plant, very bold and striking in appearance. Does well in almost any soil but responds quickly to good care and fertilization. Plant two feet apart and three to four inches deep. We have selected the following varieties which we consider best suited for general planting.

Mrs. Alfred Conrad —Pink.	King Humbert —Red.
Wintzer's Colossal —Red.	Florence Vaughn —Bright yellow.

Tritoma, Pfitzerii (Red Hot Poker)—A choice border plant of free blooming qualities and a peculiar flower, rank. Scarlet to orange. Must be taken up in winter. 2 to 3 feet. August to October.

Dahlias—Very showy for late bloom, in a great variety of colors. For ordinary planting we suggest mixed varieties. If special colors are wanted, order by name. Somewhat injured by drought and should be watered during dry seasons. Plant not closer than 18 inches apart and 3 inches deep.

Darlene —Pink and white.	Marley —Yellow and white.
Frank A. Walker —Lavender and pink.	Maryone Casel —Pink and white.
A. D. Lavoine —Shell pink.	Mrs. Bowentuft —Rose purple.
Libelle —Deep rosy purple.	Storm King —White.
Little Jennie —Primrose yellow.	Souvenir De Gustav Duazon —Orange red.
Manitou —Purple.	Yellow Duke —Yellow Primrose.

Gladioli—It is certain that no flower can give so great beauty for so little expense and labor as a good collection of Gladioli. They are easily grown and the bulbs can be used for years if they are carefully stored as explained above. They make beautiful cut flowers for the house during the late summer and fall. Bulbs should be planted four inches deep in good mellow soil. Order either assorted or special named varieties.

America —Pale pink.	Marshall Foch —Rose pink.
Assorted —All colors.	Mrs. W. E. Fryer —Blood red.
Black Hawk —Cardinal red, black blotch.	Mrs. Frances King —Red.
Chris —Dark maroon.	Mrs. Whitney —Yellow, light.
Empress of India —Purple.	Peace —White.
Fairfax —Purple.	Pendleton —Pink, blotched with red.
Halley —Salmon pink.	President Taft —Pink.
Heley Franklin —White, violet markings.	Primanullis —Yellow.
Hohenstouffen —White center.	Schwaben —Yellow.
Jesse —Rich velvety red.	War —Dark red.
Maiden Blush —Pale cream.	White Giant —White.
	Wilbrink —Light pink.
	Willie Wigman —White.



GLADIOLI

The Iris

German Iris—Can be grown in any kind of soil successfully but it loves a moist situation best. They are in bloom usually before Memorial Day and the flowers cover the most exquisite tints and colorings. We believe we have one of the finest assortments of this popular plant to be found anywhere.

Desk Clark —White and violet.	John De Witte —Light purple.
Flavescens —Cream and white.	Lord Grey —Light cherry.
Flava White —White.	Madam Chereau —Violet.
Gertrude —Violet.	Magnifica —Reddish violet.
Her Majesty —Pink.	Rhein Nixe —White and purple.
Honorabilis —Yellow and brown.	Velveteen —Cream and cherry.
Ignita —Light violet.	

Japanese Iris—This should not be confused with the German Iris, as they are an entirely different strain. It blooms a month later, has a much larger flower, but is not so free a bloomer. It makes up in size and intensity of coloring what it lacks in abundance of bloom.

Snow Queen —White.	Fairy —Purple.
Blue King —Purple.	Japanese —Sky blue.
Superba —Dark purple.	

Siberian Iris—These are a Siberian variety of extreme hardiness. They are the latest to bloom of all the Iris family.

Gravet —Violet and light blue.	Alba —White.
---------------------------------------	---------------------

Proper care of flowers will pay big dividends

Lilies



TIGER LILY

Although the lily is one of the most stately and attractive of all the blooming garden plants they seem

to be also the least understood and appreciated. The ornamental value of the lily lies almost entirely in the flowers as they are of scant foliage and of a character altogether foreign to the usual blending of parts. Most lilies are heavy bloomers and are very striking in color and should be grouped against a strong green background for the best effect. They love warm sun but their bulbs will not stand hot baked soil. The soil most desirable is a loose sandy loam which will be enriched by a top dressing of manure and should be well drained. They should be sheltered from the wind and if possible be shaded at noon. Keep bulbs from undue exposure to air and plant in the spring about six inches deep. Winter mulch always pays. Never allow manure to come in direct contact with the root bulbs. They may be left in the ground from year to year. The following list gives a wide range of color from which to select and are perfectly hardy.

Auratum —White, dotted with chocolate red.	Magnificum —White flecked with dark red.
Coerulea —Light purple.	Regale —Ivory white, splashed with yellow, pink stripes.
Day Lily —Orange.	Rubrum —White, spotted with rose red.
Flava —Yellow.	Tigrinum —Orange, dotted with crimson.
Lancolata —Light purple.	Umbellatum —Red.
Hemerocallis Thunbergi —Orange.	Varogal Funkia —Purple, variegated leaf.
Lilium Candidum —Pure white.	
Lilium Elegans —Red.	

Roses



The rose has truly been christened the "Queen of Flowers." There is no flower so beautiful, so fragrant and so universally loved and appreciated as the rose. Originally the rose was considered more of a tropical or hot house plant, but with the introduction of the many varieties of Hybrid Perpetual Roses, horticultural science has made it possible for the Northwest gardener to enjoy as wide a variety and as beautiful rose beds as our Southern neighbors. These Hybrid Roses, crossed between the June and Monthly roses, retain not only the hardiness of one parent but also the perpetual blooming habits of the other. As all hybrid roses bloom on new wood only they should be cut off to about eight or ten inches above the ground each spring and they will send up good strong shoots that will produce much larger blooms than will the weak slow growth from the old wood if left untrimmed. Clipping of the seed pods is also an aid in the blooming. When setting out new plants, make the ground rich with well rotted manure well worked in and dig the holes large enough so that the roots will not be crowded. Cut new plants down to about six inches from the ground and water liberally when planting. They should be kept well cultivated until about July 1st and then well mulched with straw or lawn cuttings. Spray with lime-sulphur for fungus and with arsenate of lead for slugs and caterpillars. All hybrid perpetual roses need winter protection. This can be easily done by throwing up a mound of earth around the plants about twelve inches high before the ground freezes and after the ground is frozen cover the bed with branches or coarse corn stalks to hold the winter snows. After the frost is gone in the spring remove the litter and earth and cut back at

once. The following lists are grouped as to color to make easy selection and are recommended for hardiness.

HYBRID RUGOSA ROSES

These new hybrid rosa Rugosas can be grown anywhere in Minnesota or the Dakotas without winter protection. They are a wonderful addition to the rose family being exceptionally free from worms and disease. They grow to four or five feet high, start blooming early and continue through summer to late fall, furnishing an abundance of cut flowers the entire season. They make the most beautiful flowering hedge known.

Amelia Graveraux —Red	Hansa —Double red.
Blanche de Coubert —Double white.	New Century —Double rose pink.
Belle Poitevine —Double deep pink.	Rugosa Rubra —Red leaf
Conrad F. Meyer —Double pink.	Rugosa Rose
Grootendorst —Double red	Sir Thos. Lipton —Double white.

HYBRID PERPETUAL AND TEA ROSES

RED	Soliel D'Or.
American Beauty.	WHITE
General Washington.	Frau Karl Druschki.
General Jack.	Mable Morrison.
Gruss en Teplitz.	Margaret Dickson.
Louis Van Houttil.	Madam Plantier.
Marshall P. Wilder.	PINK
Prince Camille de Rohan.	Anne de Diesbach.
Ulrich Brunner.	His Majesty.
Amelia Grovonaux.	John Hopper.
Captain Hayward.	LaFrance.
J. B. Clark.	Mrs. John Laing.
YELLOW	Magna Charta.
Harrison Yellow.	Paul Neyron.
Persian Yellow.	

CLIMBING ROSES

Climbing roses should be trimmed back sparingly after the first year and taken down and covered during the winter. Spray same as hybrid perpetuals.

WHITE	Seven Sisters.
Dorothy Perkins.	Paul's Scarlet.
Baltimore Belle.	RED
Baby Rambler.	Baby Rambler.
White Rambler.	Crimson Rambler.
PINK	Climbing American Beauty.
Pink Baby Rambler.	Excelsa.
Dorothy Perkins.	Flower of Fairfield.
Pink Rambler.	Tausendschoen.
Prairie Queen.	Single Red Climber.

Climbing Vines

Climbing vines play a very important part in all landscape planting. With them many a stone wall or unsightly back yard fence can be transformed into a pleasing background for inside planting. Brick, stone



CLEMATIS PANICULATA

or stucco walls of the home which look bare and brazen may be softened and beautified with climbers. The flowering sorts should be well cared for the first year and the earth thrown up in a mound at the trunk to prevent water standing around them. Cut worms; sometimes work havoc with the young tender sorts but this can easily be prevented by removing both ends of a good sized tin can and pressing it down over the plant; wood ashes are also very effective.

Ampelopsis, Englemanni—Short jointed with fine foliage. Clings to brick or stone. A good grower and very hardy. The best for the north and northwest. Foliage beautiful red in fall.

Ampelopsis, Quinquefolia—The old original Virginia Creeper, sometimes called Woodbine. It is an extremely rapid grower. Leaves are deeply cut and turn to a beautiful shade of red in the fall.

Bittersweet—A native climbing or twining plant with fine, large leaves. Yellow flowers and clusters of orange, capsuled fruit. It grows ten to twelve feet in a season.

Clematis, Henryi—New and one of the best perpetual hybrids, of robust habit. The flowers are white, large and very showy.

Clematis, Jackmanii—Flowers from four to six inches in diameter, intense violet-purple with a velvety appearance, very hardy. A free grower and often blooms from midsummer until frost. Fine for porch or trellis.

Clematis, Madam Ed Andre—Flowers large and of a

beautiful wine color. Free flowering and continuous bloomer.

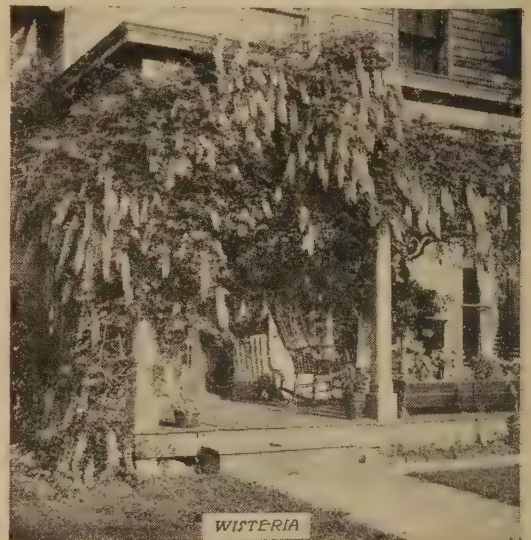
Clematis, Paniculata—A great novelty from Japan. It has proved to be one of the most desirable, useful and beautiful of all hardy vines. A luxuriant grower and profuse bloomer. Small, white fragrant flowers in September. Useful for covering verandas, pillars or fences where a trellis or support can be provided. Makes a growth of twenty to thirty feet in a single season and should be cut back to the ground each season.

Dutchman's Pipe—A vigorous and rapid growing climber, with yellow-brownish flowers resembling a pipe in shape. Fine foliage of light green leaves of large size which retain this color from spring to fall.

Hall's Japanese Honeysuckle—A strong, vigorous, almost evergreen sort, with pure white flowers changing to yellow. Very fragrant and covered with flowers from July to November. Holds its leaves until January.

Honeysuckle, Climbing Scarlet Trumpet—Semi-evergreen, scarlet flowers followed by berries of the same hue. A special favorite with all lovers of old fashioned flowers.

Matrimony Vine—Produces a large number of purple flowers which are succeeded by bright scarlet berries almost an inch long. It blooms throughout the summer and the fruit remains on the vine until late in winter.



Wisteria—One of the most rapid growers of all the climbing plants. Grows fifteen to twenty feet in a season. Has long pendulous clusters of pale blue flowers in May and June and sometimes in autumn.

Flowering Shrubs

There is nothing that can add more to the beauty of the home than to have the sides and background well filled with nicely arranged groups of shrubbery. By a judicious selection of varieties a succession of bloom may be had from early spring until late fall. The flowers may be had in many forms and in going over the following list it will pay to make some attempt at following out a blooming scheme. Shrubs, for best results, should not be scattered about the lawn, but massed in irregular groups against the buildings, in the corners and at the back and sides of the lawn. This is done to leave broad areas of light and shade which is essential. All following shrubs with the exception of a few in this list marked (*) should be cut back severely at planting time leaving not more than six to ten inches above the ground. This will not only aid the roots in establishing themselves, but will cause the plant to form a more compact and shapely head. Those marked (*) should be trimmed very sparingly if at all. Shrubs should be trimmed each year after established and it is better to cut out the older canes than to make a general top trimming unless a heavier growth at the bottom is desired. Flowering shrubs should not be trimmed until after they are through

blooming as they will not bloom if trimmed in the early spring. Mulching and spraying always pays.

Aralia Spinosa (Hercules Club)—A singular looking, small sized tree with very prickly stems. Pinnate leaves and bearing immense panicles of white flowers in midsummer. Very useful to give a tropical effect to gardens and for odd looking clumps for background.

Artimisia—Deep green, cleft foliage and compact bush shape. The creamy white flowers, which resemble Herbaceous Spireas, are sweetly scented, and borne in large terminal panicles on erect stems. 3 to 4 feet. August and September.

Red Leaved Japanese Barberry—The foliage of this new variety is of a rich, lustrous, bronzy red. Becomes more brilliant and gorgeous throughout the summer and in the fall color changes to a vivid orange. All that is required to develop its brilliant colorings, at all seasons, is that it be planted in full exposure to the sun.

Cotoneaster—An attractive, beautifully formed shrub with thick, glossy leaves, turning to red in the fall. Small white flowers in early summer followed by large



PERSIAN WHITE LILAC

black berries which remain on the bush nearly all winter. Perfectly hardy. 8 to 10 feet.

Cranberry, High Bush—Handsome native shrub. Flowers white in flat clusters, followed by bright scarlet berries which hang to the bush through the winter. 8 to 12 feet. May and June.

Currant, Alpine—Dense and upright. Yellow bloom. Excellent for dry sterile soils and under planting. Foliage beautiful. 3 to 5 feet. May.

Currant, Yellow Flowering—Very hardy and has a profusion of yellow fragrant flowers followed by brownish fruit. Does well in shady locations. 5 to 6 feet. May.

***Crab, Double Flowering**—Tree of medium size covered with double fragrant flowers of delicate pink to white. Hardy and blooms when quite young. 15 feet. May.

Dogwood, Siberica—Blood red branches. Grows in great tangled masses when mature. Flowers yellowish white, fruit pearly white. 5 to 8 feet. May and June.

Dogwood, Variegated—Fine variegated leaved shrub, of rapid growth and valuable to plant singly or in groups. Leaves are distinctly variegated, white and green. 4 to 6 feet. April and May.

Dogwood, Stolonifera—A hardy shrub with bright red bark in winter. White flowers in flat clusters. White berries. 6 to 10 feet. June.

Double Flowering Almond—A low shrub, upright in growth and one of the most spectacular in early spring. Blooms early and profusely. We have them in red, pink and white 3 to 5 feet. May.

Elder, Common—A large rapid growing shrub with immense flat clusters of white blossoms in early summer followed by black berries which are often used for pies, etc. 8 to 12 feet. June and July.

Elder, Cut Leaved—A strong grower with elegantly divided foliage. Does well in shaded locations. 8 to 10 ft.

Elder, Golden—A beautiful rapid growing shrub, with bright golden foliage, the metallic luster of which is relieved in season by masses of white bloom. 6 to 8 feet. June and July.

Elder, Red Berried—Blossoms white, produced in great profusion followed by bunches of red berries. Bush vigorous and hardy. 8 to 12 feet. April and May.

Forsythia, Fortuna—An upright spreading bush with handsome pendulous trumpet shaped, bright yellow blossoms.

Foliage deep shining green. Not exceedingly hardy. 6 to 8 feet. May and June.

Forsythia, Suspensa—Slender arching branches lapping over on the ground. Flowers striped with yellow. Useful for banks and walls. Needs winter protection. 6 to 8 feet. April and May.

Honeysuckle, Tartarian—One of the most popular ornamental shrubs. Very hardy, large growing, easily transplanted and does well in any soil. Abundant foliage and delicate flowers, followed by red or yellow berries. We grow the red, pink and white; state color wanted. Does not need much pruning. 8 to 15 feet. May and June.

Honeysuckle, Morrowi—A Japanese variety. Remarkably fine plant with wide spreading branches. Yellow flowers, followed by red berries during the latter part of the summer. Leaves remain late in fall. 4 to 6 feet. May and June.

Hydrangea, Paniculata Grandiflora—A most valuable shrub. Medium size with fine large foliage and immense trusses of white flowers, changing to pink and finally reddish brown. Bushes transplant very easily and usually bloom the first year set out. Plant singly or in groups. Bushes should be trimmed back severely each spring to get nice large flowers. 3 to 6 feet. August to September.

Hydrangea, Arborescens—A vigorous upright shrub with creamy white flowers in flattish clusters. Foliage finely finished. Excellent for grouping with other shrubs as it blooms after most of the others are through. 4 to 6 feet. June to August.

Butterfly Bush—Sometimes called the summer lilac. The violet colored blossoms are borne in terminal panicles and one bush will often attract hundreds of butterflies. Fragrant and showy. 3 to 6 feet. Late summer.

Juneberry—A high growing treeforming shrub with drooping racemes of feathery, pure white flowers. Berries resemble blueberries in both appearance and taste. 10 to 20 feet. May.

Lilac, Chas. X—Very hardy. This variety is a grand improvement over the common purple. Flowers reddish purple, one-half larger and more abundant. 8 to 10 feet. May and June.

Lilac, Common Purple—A very hardy, large growing shrub, with purple flowers. Much used in hedges and individual planting. 8 to 12 feet. May.

Lilac, Common White—Of rapid growth, with large shining foliage. Produces large clusters of fragrant white flowers. 8 to 10 feet. May.

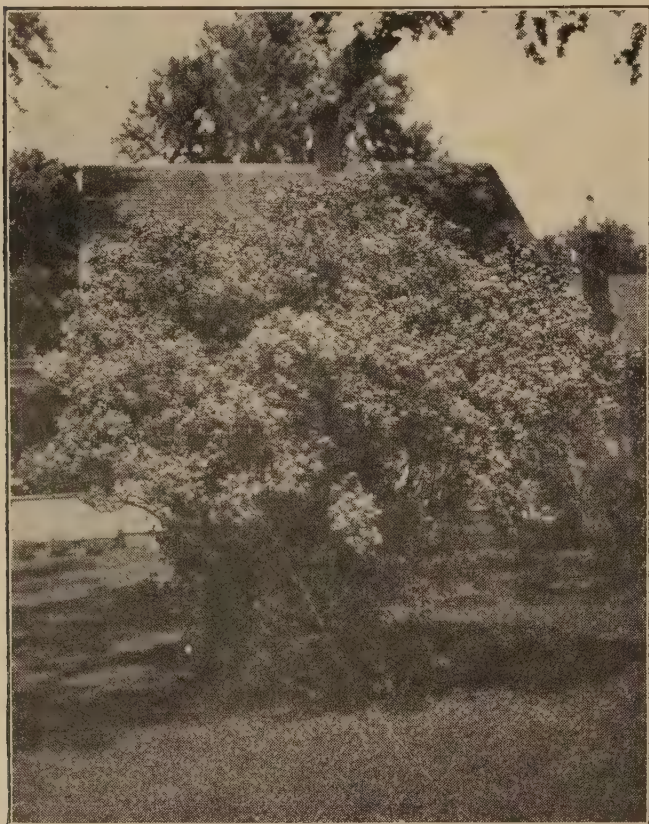
Lilac, Josica—A distinct sort of tree-like habit, producing purple flowers when most others have ceased to bloom. 6 to 10 feet. June.



Syringa



Alpine Currant



TARTARIAN HONEYSUCKLE

Lilac, Ludvig Spaeth—Panicles long, individual flowers large, dark purplish, red, distinct. The finest of its color. 6 to 8 feet. May and June.

Lilac, Madame Lemoine—Undoubtedly one of the best profuse blooming double white lilacs. Always satisfactory. 6 to 8 feet. May and June.

Lilac, Marie LeGrey—Large panicles of single white flowers. One of the finest and best blooming sorts. Very fragrant. 6 to 10 feet. May.

Lilac, Persian Purple—A more graceful form than some varieties of lilac. The branches are slender, leaves finer and more pointed. Flowers are purple, very fragrant and borne in large panicles. 6 to 8 feet. May and June.

Lilac, Persian White—Similar to the Persian Purple except that the flowers are white. Very good variety. 6 to 8 feet. May and June.

Lilac, Pres. Grevy—Individual flowers of the largest size, very double, trusses large. One of the best blue sorts. 5 to 8 feet. May.

Lilac, Villosa—A Japanese variety. Flowers are silvery rose and produced in great profusion. A grand distinct type and very satisfactory. 6 to 8 feet. May and June.

Maple, Tartarian—A dwarf shrubby tree with handsome, finely cut leaves. Good for grouping or planting singly in corners. Attractive clusters of winged seed pods. 15 feet.

Prunus, Pissardi—Large shrub or small tree used to color up shrubbery plantings. Its shining purple leaves hold their color well during the summer. 5 to 10 feet.

***Prunus, Triloba**—A beautiful shrub of medium height, blooming with a great profusion of delicate, pink, rose-like blossoms. Resembles the Flowering Almond but the bush is hardier and larger. Without doubt one of the prettiest shrubs we have. Fine foliage. 6 to 8 feet. May.

Prunus, Tomentosa—A white flowering plum. Valuable for its ornamental fruit and foliage. 8 to 10 feet. May.

Wayfaring Tree, Viburnum Lantana—Exceedingly interesting with large showy leaves and broad flat flower clusters in white. Can stand full sun. 10 to 15 feet. May and June.

Snowball, Viburnum Lentago—Large clusters of cream flowers followed by bluish black fruits. Leaves bronze in spring, orange and scarlet in fall. 15 to 20 feet. May and June.

Snowball, Viburnum Dentatum—Upright and bushy with an excellent green foliage. Flowers pure white, scarlet berries. 8 to 10 feet. May and June.

Snowball, Viburnum Opulus, Sterilis—A splendid ornamental with large, globe-like balls of white flowers. No fruit. Extremely hardy. 6 to 8 feet. May and June.

Snowberry, White—A rather low growing shrub with small pink flowers, followed by white berries, which hang on until winter. Exceptionally fine foliage. 2 to 4 feet. July and August.

Snowberry, Red—Commonly called Indian currant. Similar to the white except that the fruit hangs in large clusters of bright coral red. 2 to 4 feet. July.

Spirea, Anthony Waterer—An improved variety of this type, upright grower, large heads of dark crimson flowers. Not hardy in Northern climates. Fine for inside planting. 2 feet. July to October.

Spirea, Arguta—A Japanese variety of stiff irregular growth and white flowers which appear before the leaves. Foundation or border planting. 4 to 6 feet. April and May.

Spirea, Billardi—A fine spirea with panicles of bright pink flowers. Medium size, upright grower. Much used in shrub borders. 4 to 5 feet. July and August.

Spirea, Bumalda—Stiff and upright with new growth tinged with purple. Flowers rosy pink in flattish heads. 2 feet. July to September.

Spirea, Collosa Alba—Similar in growth and habit to the Anthony Waterer. The blossoms however are pure white. A free and continuous bloomer. 2 feet. June to August.

Spirea, Collosa Rosea—Flowers pale to deep pink. Unfolding leaves give a rich purplish cast to the whole plant. 3 to 4 feet. June and July.

Spirea, Douglasi—Deep rose plumes, used in border or behind lower shrubs about the house foundation. 5 to 7 feet. July and August.

Spirea, Froebeli—Flowers bright rosy red in flat clusters. Excellent as a border shrub. Foliage turns purple in the fall. 2 to 3 feet. July and August.

Spirea, Opulifolia—The largest growing species of this group. Valuable for massing and also for background for other shrubs. White flowers. 6 to 8 feet. June.

Spirea, Prunifolia—A fine variety with plume-like leaves. Tiny rose-like bloom. Not very hardy and should have winter protection. 4 to 5 feet. April and May.

Spirea, Sorbifolia—Of a vigorous species with leaves like the Mountain Ash and long elegant spikes of white flowers. 5 to 6 feet. June.

Spirea, Salicifolia—Long, narrow willow-like leaves. Flowers rose colored. A distinct and very desirable variety. 4 feet. July and August.



SPIREA ARGUTA

Spirea, Thunbergii—One of the finest spring blooming small shrubs. The flowers are pure white and are borne along the entire length of the branches. 3 to 5 feet. April and May.

Spirea, Van Houttei—Although one of the most popular of all the Spireas, and as desirable as any shrub in cultivation. White flowers in clusters about an inch in diameter produced freely, almost covering the foliage. Hardy anywhere. Can be used in borders, about the foundation or as a hedge with good effect. 4 to 6 feet. May.



HYDRANGAEA PANICULATA GRANDIFLORA

***Sumach, Cut Leaf Staghorn**—This shrub is becoming very popular for landscape plantings. It is of spreading habit with large, long, fine cut, lace-like leaves which turn to a beautiful color of gold in fall. 10 to 20 feet. June and July.

***Sumach, Dwarf Cut Leaf**—Deeply cut leaves, giving the whole shrub a fern-like appearance. Leaves turn bright red in autumn. 3 to 5 feet. July.

***Sumach, Rhus Glabra**—A native large growing shrub well adapted for covering barren hills. Very effective for coloring in landscape work, the leaves turning golden hued late in the summer. 8 to 12 feet. July.

Syringa, Golden—A compact shrub with bright yellow foliage, very effective as a foliage plant. 4 feet. May and June.

Syringa, Grandiflorus—A large and vigorous growing shrub producing an abundance of creamy white flowers of unusual size and fragrance. 6 to 10 feet. June and July.

Syringa, Lemoine—A showy and free flowing variety with slender arching branches. Flowers creamy white and very fragrant. 5 to 7 feet. May and June.

Syringa, Mock Orange—A vigorous growing shrub with sweet scented white flowers in the greatest profusion. Foliage bright and handsome. 8 to 10 feet. May and June.

Syringa, Virginalis—A magnificent new Mock Orange growing 6 to 8 feet and vigorous. It has large petals, double crested white flowers, five to seven in a cluster, sweet scented and very fine. Long blossom season.

Syringa, Mount Blanc—One of the very best of the Syringa family. Produces a mass of sweet scented white flowers covering the entire plant for a long time. Perfectly hardy and not subject to disease. 5 to 6 feet. May and June.

Tamarix—A distinct type of shrub, having leaves somewhat like the Juniper, crowned with delicate pink flowers. Valuable for grouping. 6 to 10 feet. July to September.

Weigelia, Rosea—Large trumpet shaped, rose colored flowers, are produced so freely that they nearly hide the leaves. Needs winter protection. 4 to 6 feet. May and June.

Weigelia, Eva Radke—A remarkably free bloomer. Flowers deep carmine crimson with yellow stamens, quite different from other varieties. Needs winter protection. 4 to 6 feet. All summer.

Weigelia, Variegated—A distinct variety having variegated leaves and an abundance of white flowers. 4 to 6 feet. May and June.

Ornamental Hedges



BARBERRY THUNBERGI HEDGE

An ornamental hedge is almost an indispensable factor in building a landscape. It frames the lawn and makes a natural background for all inside planting.



BUCKTHORN HEDGE

can be kept at any desired height by trimming, which should be done regularly and at close intervals to induce a heavier growth of foliage near the ground. Hedges where used in place of a fence, unless they are of the flowering type, should be trimmed to maintain a formal appearance. Those listed below are not classed as flowering hedges, but if grown in tree form, are more or less flowering.

Amoor River Privet—The only one of the Privet family that is hardy in the Northwest. Upright in growth, very drought resistant and can be grown in shade. Stands any amount of trimming. When not kept cut bears white flowers followed by bluish-black seeds.

Buffalo Berry—A large growing shrub which makes a fine hedge, the effect of the light grey foliage being very striking. Very resistant to drought and winter killing. Has yellow flowers in June, followed by red berries which are edible.

Barberry, Thunbergii—This pretty dwarf shrub is used more than any other for ornamental and hedge planting. It is remarkable for its dense, spreading growth and attractive appearance. Starts early in the spring and is covered densely with small dainty leaves which color to a brilliant hue in the fall. Large quantities of red berries are produced which hang on throughout the winter, giving a very striking appearance. This variety does not harbor wheat rust and should not be confused with the Purple Leaf Barberry, which is under government quarantine.

Buckthorn—Without doubt the most universally known hedge plant grown. Extremely rugged and hardy and stands any amount of pruning. Foliage dense and dark green. Very light bloomer.

Caragana, Arborescens—Thrives in any well drained soil. Very compact in its growth and desirable for a medium or tall growing hedge. Hardy in the most exposed locations.

Hedgewood—This is something new in hedges and seems to be gaining in favor rapidly. Has olive-green foliage and reddish-brown twigs. Will stand frequent trimming and also makes a beautiful high hedge when left growing.

Lilac, Persian Purple—This rugged shrub when trimmed in hedge form presents a most pleasant appearance. The leaves are quite large and grow very prolifically when kept trimmed. It is very hardy and dense in growth, and can be trimmed to any form.

Russian Olive—A very large growing shrub. The leaves are narrow and silvery white in color. Stands trimming well, perfectly hardy and easy to grow.

Spirea, Van Houttei—Although one of the most popular of the flowering shrubs, it makes a beautiful trimmed hedge and can be trimmed to almost any desired shape. When used in trimmed form, foliage forms a very dense mass of green throughout the summer. As a flowering hedge, when left untrimmed it has no equal, producing a mass of beautiful white flowers in May and June.

Shade and Ornamental Trees



AMERICAN ELM FOR STREET PLANTING

Ash, American, White or Green—A native of fine symmetrical outline; valuable for street and park purposes. Thrives best in North and South Dakota.

Birch, Paper or Canoe—One of the handsomest trees in cultivation and a vigorous grower. When young the bark is dull brown, but changes as the tree grows older to a shiny, silky white, rendering it very attractive.

Birch, European, White—A distinct, native species of vigorous, rapid growth. Bark white, leaves triangular, tapering and pointed. It is very hardy and will grow in sandy or rocky soil and in any climate.

Box Elder, Ash-Leaved Maple—This species is easily distinguished by the pinnate leaves and greenish-yellow bark. It grows rapidly into a large, spreading tree; found valuable for planting timber claims, shelter belts, etc., in the west where it endures both drought and cold.

Catalpa, Speciosa—Very fine for shade and ornamental purposes; never subject to the attack of insects. Hardy in Southern Minnesota and the South.

Chinese Elm, (Ulmus Pumila)—A very hardy species extensively grown in Siberia and Northern China. The tree is not as large as our American Elm, but is very graceful and shapely. It has become very popular in some localities on account of its ability to thrive on very dry soil and in extreme climates. It is a fast

grower, making a medium sized tree much sooner than the average shade tree. It is a wonderful tree for street planting as it reaches maturity earlier and does not become overgrown.

Elm, American, White—This is the noble spreading and drooping tree of our own forests. A fast grower, extremely hardy and in every way desirable for street and park planting. The American Elm is the first choice of the experienced landscape designer.

Hackberry—A very handsome native tree of rapid growth and great vigor. Bears transplanting well. The character of its growth is similar to the Elm, though the top is not quite so spreading as that variety.



CHINESE ELM SEVEN YEARS OLD

Horse Chestnut or Buckeye—This tree has an elegant pyramidal form with large, lobed leaves and showy upright panicles of white flowers. Tree hardy, vigorous and free from insect pests and is among the first trees to unfold its leaves in the spring.

Linden, American or Basswood—Rapid growing large sized tree with remarkable straight trunk; deep green, heart-shaped leaves and clusters of fragrant yellow flowers.

Locust, Black—Very pretty shade or ornamental tree, with sweet scented flowers in spring. Not overly hardy.

Locust, Honey—Tree of very open handsome habit and finely divided foliage. Winter bark brown and olive, while twigs shine as if polished. Hardy.



NORWAY MAPLE

Maple, Norway—A tree of foreign origin; a sturdy and symmetrical grower, forming a broad, spreading rounded head. The leaves are deep green, large and broad, and cling to the branches longer than other sorts.

Maple, Sugar or Rock—A valuable native tree for lumber as well as shade and ornamental purposes. It is adaptable to all locations. Roots deeply and grows symmetrically into a tree of large proportions.

Maple, Weir's Cut Leaf—A very beautiful silver leaf sort with delicately cut leaves and distinct half-drooping habits. It grows rapidly, forming a straight, upright trunk with slender branches that curve gracefully downward. Very hardy.

Maple, Silver or Soft—A magnificent shade and ornamental tree of rapid growth. It is perfectly hardy and will thrive in any soil and in any locality. The leaves are beautifully shaped and have a silvery gleam. The hardiness and ease of culture of this tree makes it one of the most desirable for street and park planting.

Maple, Schwedleri (Red Leaved)—Much like its parent, the Norway Maple, except that all new leaves are a bright purplish red, changing later to dull green. Makes fine color contrast where planted with other green-leaved trees or shrubs.

Mountain Ash, European—A fine, hardy tree; head dense and regular, covered from July to winter with large clusters of bright scarlet berries. Very popular for lawn planting. Hardy in all sections.

Mulberry, Russian—It is largely planted for screens and windbreaks, also for shade trees. The fruit, which is rather small, is appreciated by birds and fowls.

Newport Plum—A plum tree of striking appearance; moderately vigorous, upright growing, hardy, foliage of a deep reddish-purple color, retaining its color throughout the season; fruit is small to medium.

Oak, Scarlet—One of the best of the oak family. It forms a fine large tree of vast proportions, the large leathery leaves turning to a fiery scarlet in autumn.

Poplar, Bolleana—Much like the Lombardy in narrow upright growth. Leaves gracefully cut, light green above and clear white beneath. Very attractive olive-green bark. Very hardy.

Poplar, Balm of Gilead—A handsome native with thick, dark ovate leaves, silvery beneath. The spicy gum of the buds is used medicinally.

Poplar, Canadian—A variety of the Russian Poplar which has proven extremely popular on the western prairies. This tree is especially distinguished from the Carolina type by its light green bark and slightly oblong lobed leaves. The best poplar for windbreak purposes.

Poplar, Cottonwood—A tall native tree with shiny leaves, attaining a height of 80 to 100 feet. Grows rapidly and is very hardy, thriving under most adverse conditions.

Poplar, Lombardy—Of obelisk form, growing rapidly to extravagant heights. Is much used for screen hedges. Makes a striking feature in any landscape.

Poplar, Northwest—A recent introduction that is proving very popular on account of its extreme hardiness. Particularly adapted to North Dakota, Montana, and Northern Minnesota.

Poplar, Norway—Unexcelled for its quick growth and effect. It outgrows the Cottonwood and is extensively planted where quick groves and windbreaks are desired. This variety is highly recommended by the government to be planted for lumber purposes.

Poplar, Silver—This is a very beautiful ornamental tree. Leaves white as snow beneath, upper surface green. Extremely hardy, especially adapted to dry upland sections.

Poplar, Simoni—Similar to the Balm of Gilead and a very rapid grower. Useful for quick growing windbreaks. It has been planted as far north as Manitoba with entire success.

Poplar, Volga—A new hardy tree from Russia. Of upright growth, similar to the Lombardy, except that leaves are larger and of better form. Branches much stronger. Vigorous and hardy.

Walnut, Black—A majestic tree, growing to great size; bark rough and dark; foliage beautiful. It does well on most soils and is profitable to plant.

WEeping ORNAMENTAL TREES

Birch, Cut Leaved Weeping—Erect with long drooping branches and very finely cut foliage. One of the most graceful trees for ornamental lawn planting.

Niobe Weeping Willow—A hardy tree with graceful, drooping, golden twigs, very desirable for park or lawn purposes. Well suited to planting anywhere in the northern states.

Plan to Plant ... Another Tree



Wisconsin Weeping Willow—A very graceful, rapid growing tree. Not considered hardy north of the Twin Cities.

Weeping Mountain Ash—A very novel tree in appearance. The branches have a turning and twisting habit which produces a curious effect.

Weeping Mulberry—One of the most graceful weeping trees known, forming a perfect umbrella-shaped head with long slender branches drooping to the ground parallel to the stem. Has beautiful foliage, rather small, handsomely cut.

NUT TREES

We surely owe it to the coming generations, if not

to ourselves, to plant liberally of nut bearing trees. Black Walnut lumber, for instance, is now so scarce that the price is almost prohibitive. What better legacy can you leave your children and grandchildren than a fine grove of Black Walnut? In addition to a lumber value increasing yearly, they will soon be producing a fine crop of nuts regularly.

Black Walnut—A native species of great size and majesty. Bark very dark, deeply furrowed, foliage beautiful, nut round. One of the most prized American lumber. Somewhat slow to start but makes good growth after established.

Butternut—A native tree of medium size, spreading head, reddish colored, dark foliage, very thick. Nut oblong and rough.

Forest Tree Seedlings

Where a large number of trees are to be planted, such as for permanent groves or windbreaks, it is highly advisable to use the seedlings, that is trees not over four to five feet high. They are easier to plant and care for and the cost is but a fraction of what the larger sizes would reach. Before planting a grove or windbreak have ground well enriched and thorough-



FOREST TREE SEEDLINGS

ly worked and dragged smooth as you would for corn. There are many methods of laying out a grove, all of which have their merits, but in general we believe the following to be the one best suited where a large number of seedlings are to be planted.

First mark out your rows the desired distance apart, not less than eight feet, then with a plow run a furrow as deep as possible, throwing the dirt both ways. Next lay the seedlings in the trench with the tops resting on one side, then with one horse, run the plow along the opposite side to throw the dirt back on the roots; next straighten the trees and tramp the dirt firmly around the roots. Follow up on the other side of the trench and tramp again. This will leave very little earth to throw in by hand. The distance apart in the row differs according to the use intended. Willows, where used a snow hedge, should not be set more than three feet apart in the row and cut back within a foot of the ground. For a grove, such trees as Ash, Elm, Box Elder and Maple are best set at least eight feet and joints broken every second row. With the latter trees many plant a Poplar between each tree in the row. They make a rapid growth and protect the slower growing trees when young. As the permanent grove attains a height of ten to fifteen feet the Poplar can be cut out, giving an abundance of firewood. Keep free from grass and weeds by frequent cultivation and a good mulch around the trees will help retain the moisture during the hot weather in summer. All of the varieties listed as seedlings may be had in larger sizes but are not listed under "Shade and Ornamental Trees" to avoid duplication.

Ash, American, White or Green—A native of fine symmetrical outline; valuable for street and park pur-

poses. Thrives best in North and South Dakota and Minnesota.

Box Elder, Ash-Leaved Maple—This species is easily distinguished by the pinnate leaves and greenish-yellow bark. It grows rapidly into a large, spreading tree; found valuable for planting timber claims, shelter belts, etc., in the West, where it endures both drought and cold.

Elm, American, White—This is the noble spreading and drooping tree of our own forests. A fast grower, extremely hardy and in every way desirable for street and park planting. The American Elm is the first choice of the experienced landscape designer.

Elm, Chinese—A hardy and very fast growing tree which will attain windbreak size almost as soon as the Poplars or Willows. Particularly adapted to dry, arid territory.

Maple, Silver or Soft—A magnificent shade and ornamental tree of rapid growth. It is perfectly hardy and will thrive in any soil and in any locality. The leaves are beautifully shaped and have a silvery gleam. The hardiness and ease of culture of this tree makes it one of the most desirable for street and park planting.

Poplar, Canadian—A variety of the Russian Poplar which has proven extremely popular on the western prairies. This tree is especially distinguished from the Carolina type by its light green bark and slightly oblong lobed leaves. The best Poplar for windbreak purposes.

Poplar, Cottonwood—A tall native tree with shiny leaves, attaining a height of 80 to 100 feet. Grows rapidly and is very hardy, thriving under most adverse conditions.

Poplar, Northwest—A recent introduction that is proving very popular on account of its extreme hardiness. Particularly adapted to North Dakota, Montana, and Northern Minnesota.

Poplar, Norway—Unexcelled for its quick growth and effect. It outgrows the Cottonwood and is extensively planted where quick groves and windbreaks are desired. This variety is highly recommended by the government to be planted for lumber purposes.

Willow, Golden Russian—A very showy variety, with golden bark of high color, and very showy in winter. Valuable for windbreaks.

Willow, Laurel—A handsome, close-growing tree, leaves dark, glossy green and highly ornamental. Extensively planted for a windbreak and hedge purposes.

Willow, White—This is the large Willow that has been used so many years for hedges around farms. It does the best in low places.

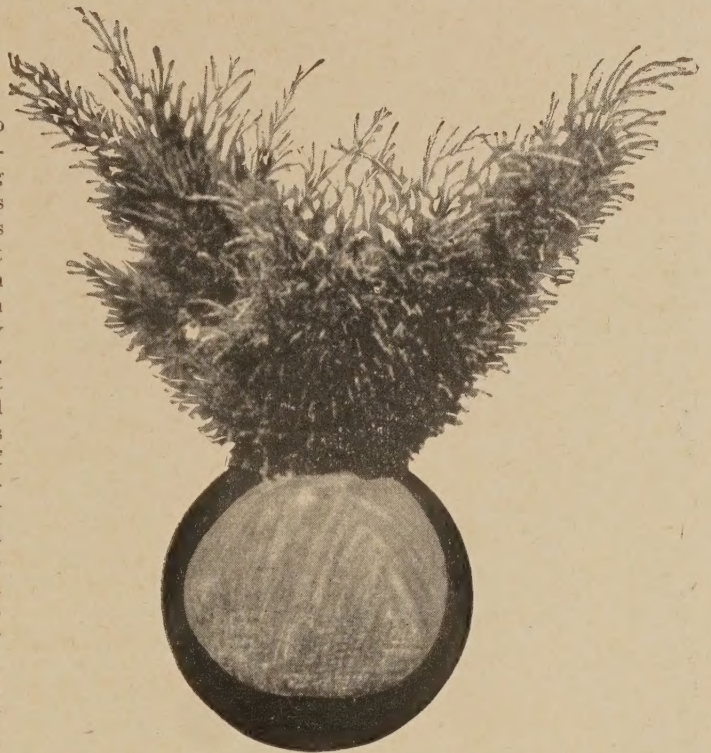


Be sure to tramp dirt firmly when planting and soak well with water. Mulching will also help.

Evergreens

In building a landscape Evergreens may be put to so many uses that they are almost an indispensable factor. For a windbreak or shelter belt there is nothing can equal them and for that purpose two or three rows planted on the North and West around the buildings will, in a short time, be very effective in keeping out the cold winter blasts and preventing the snow from piling up in the yard. Plant them twelve feet apart in the row and the rows twelve feet apart and it is a very good idea to alternate the rows with spruce and pine. The low growing kinds, or dwarfs, may be used about the stone or brick foundation walls; to fill in hard angles or soften heavy corners. Plant them always where they have intimate relation to the activities of the home; where they can be seen and felt. In handling and planting never allow the roots to become dry or exposed to the sun or air. Their sap is resinous and once hardened no amount of moisture will dissolve the resin. Dip the roots in thin mud as soon as unpacked and leave them there until the last minute before setting out. Tramp the earth around the roots as firmly as possible and use plenty of water when planting. Remember Evergreens are always in full leaf and evaporation is constantly going on, and unless firmly established when planted the wind will work them loose, destroy the young root hairs and permit the air to get down to the roots. Cultivate once each week until July first, then mulch heavily with straw, lawn clippings or litter to keep the ground moist and cool during July and August. Never sprinkle the tops of your Evergreens. Evergreens can be transplanted only in the spring. Specimen Evergreens or large sizes are best shipped balled and burlapped. These trees are dug with a large ball of earth without disturbing the roots in the least and the ball securely wrapped with burlap. When shipped this way they are almost sure to grow. When planting balled and burlapped evergreens, do not remove the burlap from the ball until the tree is placed in the hole ready to pack the dirt about them. Use a sharp knife and cut away and remove as much of the burlap as is possible without breaking the ball of the dirt. Plant them 2 inches deeper than they stood in the nursery.

Arbor Vitae, American—The finest evergreen for hedges. It grows rapidly and soon forms a beautiful,



Juniper Savin, Balled and Burlapped

dense hedge that is very ornamental. May be trained in any desired shape and stands shearing well.

Arbor Vitae, Compacta—Dwarf dense little trees with light green foliage, neat and attractive. Useful for beds, borders, cemeteries and low growing hedges.

Arbor Vitae, Globosa—Of dense, dwarf habit, globular in outline. Color, a pretty light green. Requires no shearing and is always in good form.

Arbor Vitae, Pyramidal—A superb new hardy sort of very compact habit. Grows ten to twelve feet in height and of pyramidal shape. Largely planted in cemeteries where spreading trees would be out of place.

Arbor Vitae, Siberian—Exceedingly hardy and keeps its color well in winter. Growth compact and globular. Makes an elegant lawn tree and can be trained to shape. Foliage dark green above and bluish beneath.

Cedar, Platt River Red—One of the best of Cedar family and thoroughly at home in the landscape. Hardy and needs very little care when once started.

Fir, Balsam—A regular symmetrical tree, assuming the conical form even while young. Leaves dark green above, silvery beneath. Very ornamental.

Fir, Concolor—A very beautiful species with silvery gray bark on the young branches. Leaves long and beautifully silvered, arranged in double rows. Equal in color and beauty to the Colorado Blue Spruce.

Fir, Douglas—A Colorado species of rapid growth. Makes a large symmetrical tree. Foliage bluish-green. Very drought-resisting and may be planted in dry soils where others cannot survive.

Pine, Austrian or Black—Somewhat slow growing but very dense and compact. Foliage long, dark green. Does well on light soils where there is a fair amount of moisture.

Pine, Mugho—The low, regular, dwarf type of Montana, excellent for foundation planting and with low growing shrubs. Hardy anywhere.

Pine, Ponderosa—Bull pine. A native of the West. The best tree for dry soils but thrives in most any soil. Resembles the Austrian Pine. Extensively planted for windbreaks.

Pine, Scotch—Rapid growing, handsome when young. Often used for windbreaks. Attractive yellow bark. Inclined to raggedness when approaching old age.

Pine, White—The best pine for tall windbreaks. A handsome, graceful, fine-needed American variety with smooth green bark.



Mugho Pine



SILVER COLORADO BLUE SPRUCE

Very rapid growth. Stands transplanting better than any other pine.

Juniper, Pfitzeriana—One of the most valuable of the spreading Junipers, forming a broad pyramid with horizontal spreading branches, and nodding branchlets. Leaves pointed and spreading, handsome brownish violet.

Juniper, Savin—Being entirely hardy and easy to establish, this is probably the most used among the low growing Junipers. Spreading shrub form with slender branches and dark green leaves. Excellent for foundation work and for underplanting.

Juniper, Virginiana—Tapering and symmetrical with bronze foliage in fall and early winter. Perfectly

hardy and recommended where large trees are desired. Grows 25 to 30 feet high.

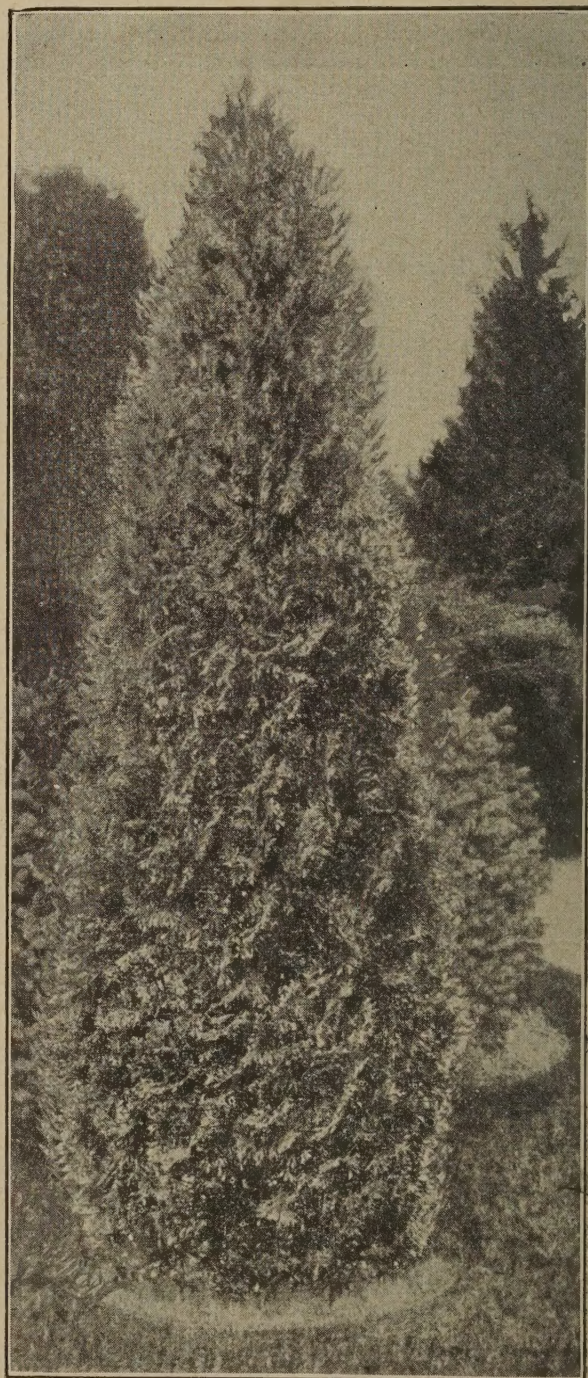
Spruce, Black Hills—Compact, shapely and of deep green color. As the name would imply it is a native of the Black Hills, hence naturally adapted to dry weather and high altitudes. Transplants easily and stands severe climatic conditions.

Spruce, Green Colorado Blue—Green type. The queen of ornamental evergreens and especially adapted to northern climates. Foliage varies from light silvery green to as deep a shade as the Norway.

Spruce, Silver Colorado Blue—Shiners or Blue type. The same as the green type except in color, which is a rich silvery blue. They are much more rare than the green type, consequently higher priced but their effect in the landscape is wonderfully striking.

Spruce, Norway—The most popular windbreak evergreen. Stands transplanting well and is a fairly rapid grower. Not as satisfactory for ornamental planting as the Black Hills or Colorado, but perfectly hardy in all northern climates.

Spruce, White—A very hardy evergreen with deep green foliage similar to the Norway. Compact and upright grower. Succeeds best in northern latitudes.



Pyramidal Arbor



PRACTICAL SPRAY CALENDAR

The following spray calendar has been carefully worked out to aid you in the care of your nursery stock and if followed will assure you clean, healthy trees and shrubs, free from insect pests and fungus diseases.

CROP	PESTS	WHAT TO USE	DILUTIONS		WHEN TO SPRAY
			Level Tablespoon- fuls to 1 Gallon Water	Pounds to 50 Gallons Water	
APPLE	San-Jose and Oyster-Shell Scales and Blister-Mite	Dry Lime Sulfur	9 to 11	12 to 15	In spring when the leafbuds show tip-green.
	Codling Moth, Curculio, Bud-Moth, Scab, Frog-Eye and Blotch	Dry Lime Sulfur and Arsenate of Lead	2½ to 3 and 1½ to 2½	4 to 5 and 1 to 1½	1. When the blossom buds show pink. 2. At the fall of the petals. 3. Ten days to two weeks later. 4. Two weeks after No. 3.
	Second-Brood Codling Moth	Arsenate of Lead	1½ to 2½	1 to 1½	Ten weeks after the fall of the petals. Around Aug. 1.
CHERRY and PLUM	Brown Rot, Leaf-Spot, Curculio and Slug	Dry Lime Sulfur and Arsenate of Lead	2½ to 3 and 1½ to 2½	4 to 5 and 1 to 1½	1. Just before blooming. 2. When the petals fall. 3. Ten days later. 4. Two weeks after the fall of the petals.
		Dry Lime Sulfur	2½ to 3	4 to 5	Just after picking (when leaf spot bad).
	Cherry Fruit-Fly or Maggot	Arsenate of Lead	1½ to 2½	1 to 1½	As soon as the fruit flies appear. In case of rains make additional applications.
GRAPE	Black-Rot, Mildew and Berry-Moth	Bordeaux Mixture and Arsenate of Lead	1½ to 2½ and 1 to 1½	1 to 1½ and 1 to 2	1. When shoots are 8 to 10 inches long. 2. Just before blooming. 3. Just after the blossoms fall. 4. Two weeks later.
CURRANT and GOOSEBERRY	Mildew	Dry Lime Sulfur	9 to 11	12 to 15	When the buds begin to open.
		Dry Lime Sulfur	2½ to 3	4 to 5	Every ten days after the buds begin to open, making three applications.
	Currant Worm	Arsenate of Lead	1½ to 2½	1 to 1½	When the worms first appear.
BUSH-FRUIT (BLACKBERRY LOGANBERRY RASPBERRY)	Rose-Scale, Cane-Blight, Leaf-Spot and Anthracnose	Dry Lime Sulfur	9 to 11	12 to 15	In spring before growth starts.
	Anthracnose	Dry Lime Sulfur	2½ to 3	4 to 5	Just before the bloom.
STRAWBERRY	Leaf-Spot, Flea Beetle and Leaf-Roller	Bordeaux Mixture and Arsenate of Lead	1½ to 2½ and 1 to 1½	1 to 1½ and 1 to 2	1. Before the blossoms open. 2. As soon as the fruit has been picked. Additional applications will depend upon the presence of Leaf-Roller larvae and Flea-Beetle.
SHADE-TREES and SHRUBS	Scale insects including Oyster-Shell European Elm	Dry Lime Sulfur	9 to 11	12 to 15	In spring before the buds open.
	Cottony-Maple Tulip Pine-Leaf and Terrapin Scales	Miscible Oil	Directions	on container	In spring before buds open.
	Tussock Moth	Arsenate of Lead	4½	3	As soon as the caterpillars appear.
	Brown Tail Moth	Arsenate of Lead	4½	3	Spray at the time pear blossoms are falling and in August. Burn the winter nests.
	Gypsy Moth	Arsenate of Lead	4½	3	Spray when the caterpillars first appear.
FLOWERS	Leaf-eating insects	Arsenate of Lead	1½ to 2½	1 to 1½	As soon as the slugs or worms appear.

NOTE 1: Whenever aphids (plant lice) appear on fruit trees, vegetables, shade trees, shrubs and flowers, spray with Nicotine Sulfate at the rate of 1 level tablespoonful to 1 gallon of water or ½ pint to 50 gallons of water.

NOTE 2: This spray program is made primarily for growers in regions where climate conditions are similar to those in Minnesota.

NOTE 3: Ingredients and instructions for Bordeaux Mixture can be obtained at any drug store.

DON'T fail to have your ground ready before goods arrive.
DON'T fail to plant on same day you receive the goods, if possible.
DON'T fail to cut the end off of each root with a sharp knife before planting.
DON'T fail to plant deep and solid.
DON'T fail to thoroughly soak ground around each plant and tree after planting.
DON'T fail to trim each fruit tree, leaving but two buds on the last year's growth of each limb, and

leave only about five branches on a tree.
DON'T trim your tree too high as low branches will protect the body of the tree.
DON'T fail to cut back all shrubs after planting, to within ten inches of the ground.
DON'T fail to spray your trees as per instructions on this sheet.
DON'T fail to cultivate your young stock thoroughly regularly until July 15, each year, until thoroughly established and mulch well during late summer.

Cashman Nurseries, Inc.

Owatonna, Minnesota
